UNITED STATES
CIVILIAN BOARD OF CONTRACT APPEALS

THIS OPINION WAS INITIALLY ISSUED UNDER PROTECTIVE ORDER AND IS BEING PUBLICLY RELEASED IN REDACTED FORM ON JUNE 28, 2023

GRANTED IN PART: March 31, 2023

CBCA 6750

BALFOUR BEATTY CONSTRUCTION, LLC,

Appellant,

v.

GENERAL SERVICES ADMINISTRATION,

Respondent.

Reginald M. Jones, Nicholas T. Solosky, and Diana Lyn Curtis McGraw of Fox Rothschild LLP, Washington, DC, counsel for Appellant.

Justin S. Hawkins, Kelly Y. Burnell, and Jessica A. Gunzel, Office of General Counsel, General Services Administration, Washington, DC, counsel for Respondent.

Before Board Judges **SHERIDAN**, **KULLBERG**, and **O'ROURKE**.

KULLBERG, Board Judge.

Appellant, Balfour Beatty Construction, LLC (Balfour), appeals the contracting officer's (CO's) final decision (COFD) that denied its claim in the amount of $13,350,899. Balfour's claim consists of nineteen separate claims for increased costs related to its contract with the General Services Administration (GSA) for the construction and expansion of phase two of the central utilities plant (CUP2) for the Department of Homeland Security (DHS)

headquarters at the St. Elizabeths West Campus (St. Elizabeths) in Washington, D.C.[1] Through its nineteen claims, Balfour seeks to recover increased costs allegedly incurred because of compensable delay, errors in the solicitation bridging documents, differing site conditions, and changes to the contract. Balfour also seeks certain costs related to legal and consulting fees.

The Board conducted a seven-day hearing, which commenced on July 12, 2021. The parties submitted post-hearing and reply briefs. Only entitlement is at issue in this appeal.[2] For the reasons stated below, the appeal is granted in part.

Background and Findings of Fact

I. The Solicitation and Contract

1. On March 25, 2016, GSA issued solicitation number GS-11-P-16-MM-C-7001 (solicitation), "Design/Build for [CUP2] for the consolidation of [DHS] at St. Elizabeths." Appeal File, Exhibit 2.1[3] at STE00000199.[4] The first phase of the solicitation was a request

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[1] St. Elizabeths Hospital was established as a psychiatric hospital by the United States Government in 1852. Appeal File, Exhibit 2.14 at 910. The 300-acre St. Elizabeths campus includes Gothic Revival buildings, which were built between 1852 and 1899. *Id.* Sixty-two of the seventy buildings on the campus are national historic landmarks. *Id*. GSA took control of the property in 2004. *Id*. "St. Elizabeths" has been historically written with the omission of an apostrophe. *Id.*, Exhibit 2.9 at 416 n1.

[2] The Board's order on further proceedings, dated March 4, 2020, stated that the Board would only determine entitlement in this appeal. In a subsequent order, dated March 25, 2020, the Board, at the parties' request, revised its previous order to state that the Board would decide both entitlement and quantum. At the hearing, the parties agreed that the Board would determine only entitlement. Transcript, Vol. 1 at 48-49.

[3] All exhibits are found in the appeal file, unless otherwise noted. The appeal file consists of numbered exhibits 1 through 623 (Government's exhibits) and 2001 through 2341 (appellant's exhibits). Exhibit 2342 is the parties' joint statement of facts. Transcript, Vol. 1 at 5. Exhibit 2343 is a September 6, 2018, email from GSA to Balfour. Exhibit 2344 is the Government's expert testimony "slide show" presentation at the hearing. Transcript, Vol. 7 at 68. Exhibit 2345 is appellant's presentation from counsel's opening statement.

[4] Subsequent page number citations in government exhibits will omit the letters "STE" and the zeros that precede the actual page number in the exhibit. Both government and appellant exhibits have page numbers that were imprinted on each page of the exhibits

for qualifications (RFQ) for the selection of highly qualified offerors, and the second phase was a request for proposals (RFP) from a short list of highly qualified offerors. *Id*. at 204. The RFQ described the project as "design/build efforts from approximately 30% bridging documents." *Id*. at 199. Additionally, the RFQ explained the purpose of the bridging documents as follows:

> GSA will utilize the design-build bridging method to deliver this Project. This contracting strategy is a hybrid of traditional design-bid-build project delivery and design-build project delivery. GSA has entered into a separate contract with the Construction Manager (CM) firm AFG. AFG will assist in the administration of the design-build phases of the Project. In the design-build "bridging" delivery method, [Zimmer, Gunzel, Frasca Architects (ZGF)] (GSA's Bridging Architect/Engineer) has developed the Government's needs for the Project through the planning and final concept design and specifications. These bridging documents are not intended, nor are they adequate, for actual construction. Rather, they are intended to convey the conceptual design and historic preservation approach of the Building as well as the Project specific design criteria and requirements. The "bridging" concept design will serve as the basis for the Contractor's Proposal submissions. The Contractor will be required to take the concepts (final concepts) through GSA's excellence process and to work with the various consulting parties in order to obtain the required approvals of the National Capital Planning Commission, the State Historic Preservation Office, and Commission of Fine Arts.

Id. at 204.

2. The bridging documents included a project narrative, specifications, drawings, calculations, site-condition reports, and an historic structure report prepared by Wiss, Janney, Elstner, Associates, Inc. (WJE), an architect and engineering (A&E) firm. Exhibits 2.5–2.19, 2342 at 2. Section 011000 of the specifications stated, in pertinent part, the following:

[redacted]

by the parties, and those page numbers are used throughout this decision to cite the page of the exhibit.

[redacted]

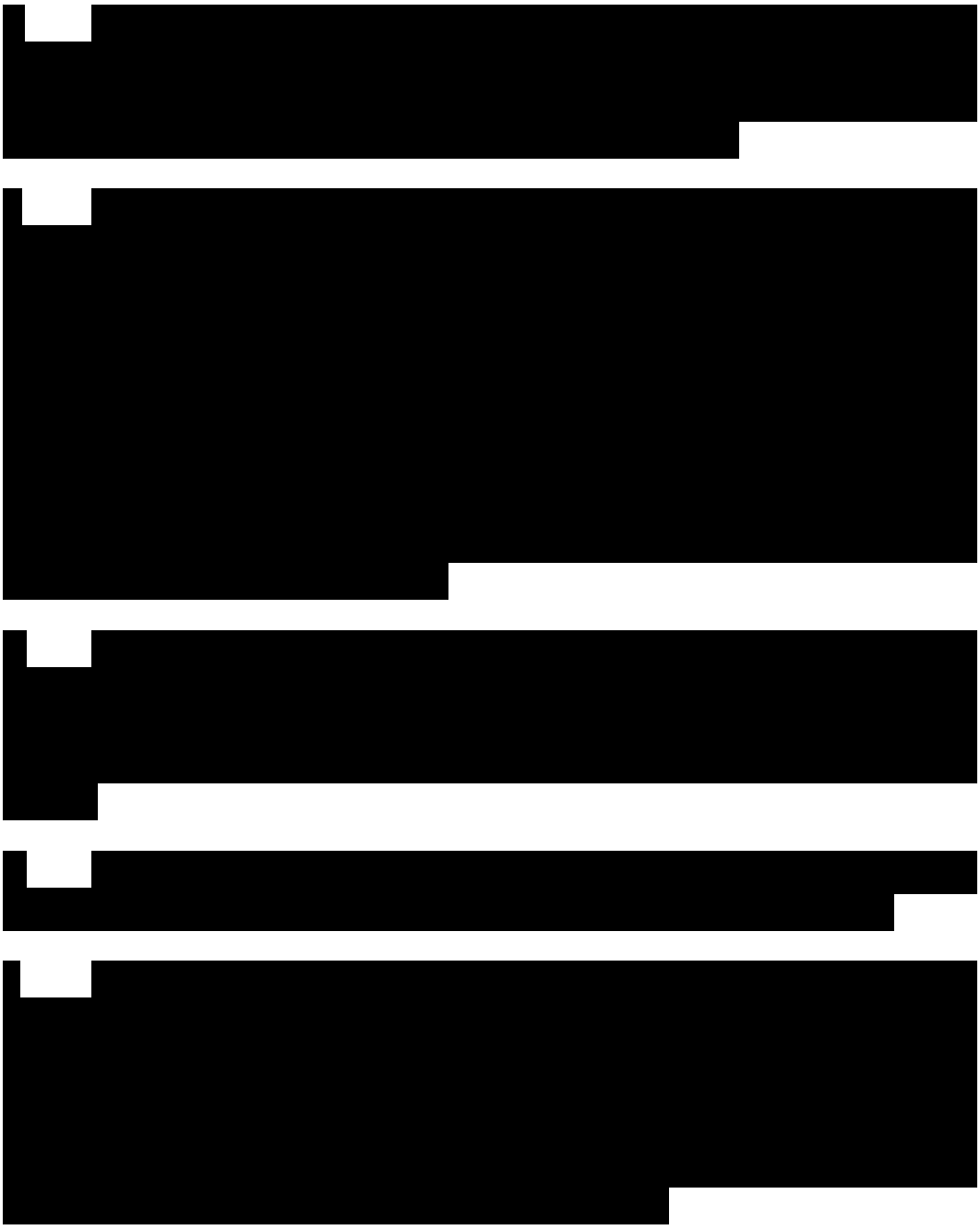

Exhibit 2.18 at 1600-01.

3. The project narrative described the CUP2 project, as it related to other projects at St. Elizabeths, as follows:

[redacted]

[redacted]

Exhibit 2.10 at 438.[5] [redacted] *Id*. at 461. [redacted] *Id*. Additionally, the narrative noted that a utility tunnel, which runs north to south, terminated at the north face of the CUP1, and it made [redacted] *Id*. at 440. The bridging documents required that construction schedules be coordinated such that the [redacted] *Id*. at 438. Photographs of the center building from the spring and fall of 2016 show only the original external walls of the building supported by bracing with the roof and interior floors having been removed. Exhibit 1 at 6, 34.

4. The design presentation in the bridging documents showed the site of the CUP2 as adjacent to the CUP1, which was built in 2010, on one side and the former power house with its twin smokestacks (building 56/57) on the other side. Exhibit 2.11 at 560, 585.

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[5] The DOC A was also known as the DHS National Operations Center. Transcript, Vol. 5 at 197.

Additionally, ZGF advised that [redacted] *Id*. at 585. Photographs in the bridging documents, which were dated from 1920 and 1968, showed railroad tracks and other structures near the power house that were not present in a contemporary photograph of the power house. *Id*. at 562.

5. WJE's historic structure report on the power house, which was dated July 14, 2014, noted the following:

> The Power House was constructed as part of an expansive building campaign initiated by Alonzo Richardson during his tenure as superintendent. Due to the increased size of the campus, a larger heating plant was needed to replace the previous boiler house (Building 52, later known as the Ice Plant). The first phase (Building 56) was designed in 1901 and completed in July 1904. By 1905, planning began for the second phase of the Power House through the construction of an addition to the northeast. By 1906, a railroad trestle was constructed at the east end of the north facade of the Power House over a series of coal storage bins. Alterations typically focused on equipment improvements. In 1908 funds were appropriate[d] for the Power House expansion. The Power House addition (Building 57) was completed in 1910.

Exhibit 2.9 at 418. The power house underwent various modifications during the remainder of the twentieth century, and the building was "mothballed" in 2004. *Id*. WJE's report noted the current, deteriorated state of the power house with boarded-up windows, standing water and mud inside, open mortar joints on the exterior facade, and the encroachment of vines and trees on the building. *Id*. at 418-20. Recent changes to the power house were the following:

> The Power House was significantly altered in 2010 during construction of the new U.S. Coast Guard headquarters on the site . . . . On the site to the north of the building, the railroad trestle and various retaining walls were removed. At the north side of Building 56, the 1940s water treatment addition, the 1940s vent house addition, the 1970 generator room addition, and several adjoining additions were demolished exposing the original north wall of Building 56 . . . . On the north side of Building 57, a series of concrete retaining walls and foundations built in 1955 to support coal bunkers and related equipment were removed.

Id. at 419.

6. The bridging documents also included a second assessment of the power house, which was prepared on July 31, 2015, for ZGF by Robert Silman Associates (Silman). Exhibit 2.17 at 1550. Silman's report was a summary of a June 26, 2015, site visit. *Id*. at 1552. The report noted that some areas of the power house were inaccessible due to flooding. *Id*. at 1554. Captioned photos in Silman's report noted [redacted] and [redacted] *Id*. at 1565-65. Another photo showed "extensive vegetation growth adjacent to and on the structure." *Id*. at 1564. Additionally, the report listed the following recommendations:

[redacted]

Id. at 1566.

7. Section 10.2, Fuel Storage, of the project narrative stated that [redacted] Exhibit 2.10 at 473. The tanks would be located above ground in level B2 adjacent to each generator and provide for a [redacted] run time. *Id*. Chapter ten, "Mechanical," of the project narrative stated that GSA's Public Buildings Service (PBS) publication P-100 (PBS P-100) provided that [redacted] *Id*. at 464. The PBS P-100 required a minimum emergency power supply of seventy-two hours. Exhibit 2087 at 982757.

8. Section 10.2.4, Connection to CUP1, of the project narrative stated that [redacted] Exhibit 2.10 at 472. Section 6.5.2.3, Demand Load and Spare Capacity, stated the following:

> To ensure maximum flexibility for future systems changes, the electrical system must be sized for the demand load with additional spare capacity as follows:
>
> . . . .
>
> Main switchgear: 25 percent spare ampacity and 25 percent spare circuit capacity[.]

Exhibit 2087 at 982745.

9. Section 12.4.1, Main Service Distribution and Switchgear, of the project narrative stated that [redacted] Exhibit 2.10 at 497. Additionally, that section stated that [redacted] *Id*. That requirement for a Kirk-Key interlock system was also shown on bridging design drawing E606. Exhibit 2.19 at 2748. However, the PBS P-100 stated that "[a]ll double-ended substations must be equipped with two secondary main breakers and one tie breaker configured for open transition automatic transfer, initiated through the use of an under-voltage relaying scheme." Exhibit 2087 at 982750.

10. Section 12.4.2, Emergency Power, of the project narrative provided that [redacted] Exhibit 2.10 at 497. Bid alternate 2 included [redacted] *Id*. Additionally, the project narrative provided that the [redacted] would be included as part of bid alternate 1. *Id*. at 498. The campus electrical load table showed the DOC A as receiving 100%

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[6] KW refers to kilowatts and kVA refers to kilovolt amperes.

[7] Exhibits cited elsewhere in this decision refer to the 3000 kW generator as a 3 megawatt (MW) or 3MW generator.

emergency power. *Id*. at 501. The emergency power requirement for the DOC A was the same as the normal power requirement, which was nine megawatts. Transcript, Vol. 5 at 197-99. The emergency power requirement for the DOC A, which was a twenty-four-hour operations center, was more than just life safety loads. *Id*. at 200.

11. Section 15.1 of the project narrative advised that [redacted] Exhibit 2.10 at 526. Section 15.2.1.1, Control Technology Analysis (Lower Achievable Emission Rate (LAER)/Best Available Control Technology (BACT)), of the project narrative stated the following:

[redacted]

Id. at 529.

12. The bridging documents included a geotechnical report, which had been prepared by Haley & Aldrich, Inc. (HAI) for ZGF. Exhibit 2.14 at 902. Generally, the report "summarize[d] the results of subsurface investigations, [their] geotechnical engineering evaluations, and provide[d] foundation design recommendations and construction considerations for the proposed . . . CUP2." *Id*. at 903. With regard to excavation, HAI stated the following:

> Construction of the [CUP2] foundation will require excavation through topsoil, existing unsuitable Fill containing granular (sands, silts and gravels) and cohesive (clays) soils, coal fragments and ash from the former Power House operation, and medium stiff to hard Potomac Group C1 clay soil deposits. The Fill varies in density from very loose to very stiff and dense and varies from 7.2 m to 8.5 m (23.5 ft. to 28 ft.) thick. A former utility tunnel, utilities, and concrete slabs and structures once part of a system of coal receiving and storage structures are assumed to still be in-place with and at the bottom of the

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[8] G/hp-hr refers to grams per metric horsepower-hour.

> Fill deposit and will require excavation and removal to reach the [CUP2] foundation subgrade.

Id. at 930.

13. Section 13.2.8, Connections to CUP1 and Tunnel, of the project narrative stated that [redacted] Exhibit 2.10 at 504. The bridging documents included drawing S1.01, lower level 2 foundation plan, from phase 1A, CUP1. Exhibit 2.8 at 411. The project record date of the drawing was October 14, 2013. *Id*. Additionally, the bridging documents included drawing SB101, level B2 floor plan for the CUP2 project, which was prepared by ZGF and Silman. Exhibit 2.19 at 2666. A note on drawing SB101 said, in part, [redacted] *Id*. Silman provided a separate set of structural calculations with regard to the mat foundation,[9] and noted, with regard to HAI's report and drawing SB101, the following:

> [redacted]

Exhibit 2.12 at 602. Silman also noted, in light of HAI's report, the following geotechnical assumptions: [redacted] *Id*.

14. Additional directions in section 011000 of the specifications included, in pertinent part, the following:

> [redacted]

[9] A mat foundation is a continuous slab resting on the soil that extends over the entire footprint of the building.

1. Replacement of existing conditions that are removed shall match similar existing conditions.

2. Unless indicated on the construction documents and prior approval has been received by the CO, existing structural members shall not be cut or altered without authorization.

3. Conditions that are to remain in place which are damaged or defaced during the Work, shall be restored to the condition existing at time of D-B Constructor's [sic] access to the Work for destructive [sic] and other investigation as determined and accepted by the Government.

4. Discolored or unfinished surfaces exposed by removal of existing conditions that are indicated to be final exposed surfaces, shall be refinished or replaced as necessary to produce uniform and harmonious contiguous surfaces.

5. D-B Contractor shall submit a plan for approval to GSA and DHS to make any required modifications to the existing Campus Level V Security Fence required to access and complete Work. All required fence modifications shall be part of the D-B Contractor's Base Bid and must be coordinated with DHS [Office of the Chief Security Officer (OSCO)] Security Division and the Contracting Officer a minimum of seven (7) days prior to starting modifications. See Division 01 Section "Security Regulations."

D. Existing Conditions or As-Built Conditions: The D-B Contractor must understand and acknowledge that the Bridging Documents provided by the BA/E may not exactly depict the existing "as constructed conditions" to which the D-B Contractor must work with, interface, and connect to. The D-B Contractor should anticipate adjustments to the Work and will perform these adjustments at no additional cost to the Government.

E. Existing Utilities: The D-B Contractor shall identify, locate, document[,] and assure utility services (including telecommunications and data services) to the other buildings and facilities that constitute the St. Elizabeths West Campus (both inside and outside the work area) are not interrupted in the course of the work. All scheduled outages and or interruptions shall be fully coordinated in advance and approved in writing by the CO a minimum of five (5) working days in advance. Due to the nature of governmental functions performed, the importance of maintaining these services cannot be over

> emphasized. Failure to comply with this requirement may result in the removal of key personnel from the site and the exercise of other appropriate contractual functions by the Government, including full or partial termination of the contract. Existing utilities outside the building footprint shall be located by the D-B Contractor and shall not be disturbed by the D-B Contractor's hoisting, bracing, mobile equipment or other equipment and stored materials on Government property. D-B Contractor shall immediately remove any equipment or stored material that interferes with ongoing operations in the St. Elizabeths West Campus.
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> . . . .
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> J. Historic Preservation: The GSA is committed to the future restoration and renovation of Building 56/57 and Building 52 (Icehouse) as well as to maintain and enhance the historic landmark nature of the St. Elizabeths West Campus. The D-B Contractor will be required to provide monitoring and site protection for these adjacent historical structures, but under no circumstances shall enter Buildings 52, 56, and 57 without prior approval from the CO. All work associated with these buildings shall be performed from the exterior, see drawings for additional information and requirements.
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> . . . .
>
> N. Permits: The D-B Contractor shall be responsible for obtaining any necessary permits from the District of Columbia, the District Department of the Environment (DOEE) and any other authorities having jurisdiction as required to complete the Work.

Exhibit 2.18 at 1604-06.

15. Section 011150 of the specifications, Design Procedures and Requirements, required that "[t]he D-B Contractor shall provide the professional services of an Architect/Engineer of Record and Designers of Record for each design discipline, to complete the design." Exhibit 2.18 at 1608. That section provided that "[i]f the D-B Contractor submits a design which is substantially different from the preliminary concepts prepared by the Bridging A/E for the Government, the D-B Contractor is required to resubmit the project to the Consulting Parties." *Id*. Finally, that section required the contractor to prepare 35%, 50%, 90%, and 100% construction documents. *Id*. at 1609-10.

16. Section 014200, References, Definitions, and Abbreviations, of the specifications set forth, in pertinent part, the following definitions:

> A. General Explanation: Specification language often includes terms that are defined elsewhere in the Contract Documents, including the Construction Contract Clauses. Terms defined in this section are in addition to the definitions and references provided in Contract Clauses. These definitions or explanations are not necessarily complete or exclusive, but are general for the Work and may be explained more explicitly in other Sections.
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> . . . .
>
> F. Bridging: Bridging is a hybrid of design-build and the traditional design-bid-build process. The contract documents are prepared by the Bridging Architect/Engineer hired by GSA. The contract documents specify the project's functional and esthetic requirements including plan and sectional views, but the details of construction technology are described with performance specifications. The construction contract will be awarded based on Bridging Documents.

Exhibit 2.18 at 1697. Additionally, section 014200 listed, in pertinent part, definitions of the following terms:

> AA. Furnish: Furnish means to supply and deliver to the Project site, ready for unloading, unpacking, assembling, installation and similar operations.
>
> . . . .
>
> CC. Install: Install describes operations at the Project site, including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.
>
> . . . .
>
> PP. Provide: Provide means to design, procure, furnish, install, and commission, as required, complete in place and ready for full use.

Id. at 1699-1700.

17. Section 017300 of the specifications set forth requirements for execution "of the Work, including, but not limited to laying out the work, general installation of products, correction of defective work, and cleaning." Exhibit 2.18 at 1738. That section provided, in the case of field corrections, the following:

> C. Field Correction Requests: Immediately upon discovery of the need to deviate from requirements of the Contract Documents, the D-B Contractor shall submit a field correction request to the Contracting Officer (CO) for review. Include a detailed description of the problem encountered, together with recommended changes and detailing the reasons for deviating from the Contract Documents. Do not proceed with work without prior approval of CO.

Id. Additionally, section 017300 stated that contractors "shall verify layout information shown on the Bridging Drawings, in relation to the property and any existing benchmarks, including validation of existing building and utility locations against the Government's overall campus survey." *Id*. at 1739. Finally, that section stated the following:

> E. Existing Utilities and Equipment. The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction.

Id. at 1740.

18. Division 31 of the specifications set forth the requirements for earthwork. Exhibit 2.18 at 1574-75. Section 31 2300, part 1 at (E)(2)(a) stated that "[t]he [c]ontractor is advised that former structures, including concrete slabs, walls, utilities, etc. exist below grade that will interfere with excavation and new foundation construction and will require removal." *Id.* at 2423. Additionally, section 31 2300, part 3 at (C)(2) stated that "[t]he [c]ontractor shall expect to encounter remnants of tunnels, slabs, walls, utilities and other buried structures during pre-trenching, general excavation, and installation of temporary excavation support systems." *Id*. at 2429.

19. Section 31 2335 of the solicitation specified the manner in which the contractor would excavate the site and dispose of excavated soil and other material. Exhibit 2.18 at 2444-57. That section identified seven separate classes of soil or other material to be excavated. *Id*. at 2448-51. Generally, classes one through four applied to soil with varying levels of contamination, and classes five through seven applied to ash with varying levels of contaminants and other solid waste. *Id*. at 2448. Additionally, that section required the

Government to conduct a pre-characterization program to test and classify the soil and other materials to be excavated. *Id*. at 2448, 2451.

20. Section 31 2319, Construction Dewatering, of the solicitation specifications described, in pertinent part, the work as follows:

> a. Design, provide, install, operate, maintain, and remove a temporary dewatering system to remove groundwater, groundwater seepage, precipitation and surface water runoff from excavations in accordance with the requirements specified herein.
>
> b. Prior to excavation, lower and maintain groundwater levels a minimum of 0.61 [meters] below lowest excavation subgrade level.
>
> c. Design, furnish install, maintain and operate a treatment system to treat dewatering effluent as necessary to comply with all DC Water permits and discharge criteria, including treatment to reduce chemical concentrations to permit levels or lower in the dewatering effluent prior to discharge. Do not discharge collected water into permanent perimeter or underslab drainage system or recharge system.

Exhibit 2.18 at 2437. That section also provided that "[t]he Contractor is required to obtain all required discharge permits and to route effluent from the dewatering system to an acceptable discharge location as identified in the permit(s), and to treat dewatering effluent as necessary to comply with permit discharge criteria." *Id*. at 2438. Finally, that section provided that "[f]or dewatering effluent, discharge to the designated location in accordance with applicable permits. Discharge to the storm drain shall not be conducted unless Contractor obtains required permits." *Id*. at 2441.

21. The bridging documents included a geotechnical report, which was prepared by Haley & Aldrich, Inc. (HAI). Exhibit 2.14 at 902. HAI conducted a subsurface exploration that included "thirteen (13) test borings and two (2) test pits in the vicinity of the CUP2 location." *Id*. at 915. Also, HAI installed an observation well to a depth of thirty feet to obtain a groundwater sample to "assess its environmental quality for construction dewatering and potential for off-site disposal." *Id*. at 916. In its report, HAI stated that "[t]he analytical results of the groundwater sample were compared to the [Environmental Protection Agency (EPA)] National Primary Drinking Water Maximum Contaminant Levels (MCLs) as a conservative reference. The results indicated that no compounds tested exceeded any of the EPA MCLs criteria." *Id*. However, the report also stated that "[o]ther environmentally-sensitive activities may have been conducted on the site which may not be

discovered until construction begins. The full extent of any contamination, and its potential impacts on design and construction of geotechnical aspects of the project may not be fully understood until construction." *Id*.

22. Section 26 3213 of the specifications, Engine Generators, provided requirements for fuel-oil storage as follows:

Exhibit 2.18 at 2356. The specified fuel for the generator engine was "Fuel oil, Grade DF-2." *Id*. at 2355. Sections 23 1313 and 23 1323 were not in the specifications. *Id*. at 1573. Section 23 1113, Facility Fuel-Oil Piping, did provide fuel oil that was "Grade No. 2" and "Diesel Fuel Oil: Low Sulfur." *Id*. at 2214.

23. Section 31 5000(D) of the specifications, which set forth requirements for the support and underpinning of excavation, stated, in pertinent part, the following:

> 2. The provided subsurface information is available to the Contractor for information on factual data only and shall not be interpreted as a warranty of subsurface conditions whether interpreted from written text, boring logs, or other data. The subsurface information is considered to represent the conditions at the locations of the explorations at the time they were conducted. Variations from the conditions disclosed by the explorations should be anticipated by the Contractor in planning and estimating the work.
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> 3. Protection of Adjacent Property and Utilities: The Contractor shall protect adjacent structures (Building 56, Central Utility Plant-1, Building 52, etc.) and utilities (above ground and buried) from damage associated with construction activities. Damage due to construction activities shall be repaired immediately by the Contractor at the Contractor's expense.
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> 4. Obstructions: The Contractor is advised that the existing fill contains incinerator ash, buried utilities, utility tunnels, former coal bin slabs and walls, retaining walls and other below-grade obstructions from historic use of the site. The Contractor shall make provisions for obstructions in construction

> means and methods, schedule and bid price to account for the fact that obstructions will be encountered.

Exhibit 2.18 at 2459.

24. Part 4 of section 31 5000 of the specification, Measurement and Payment, stated the following:

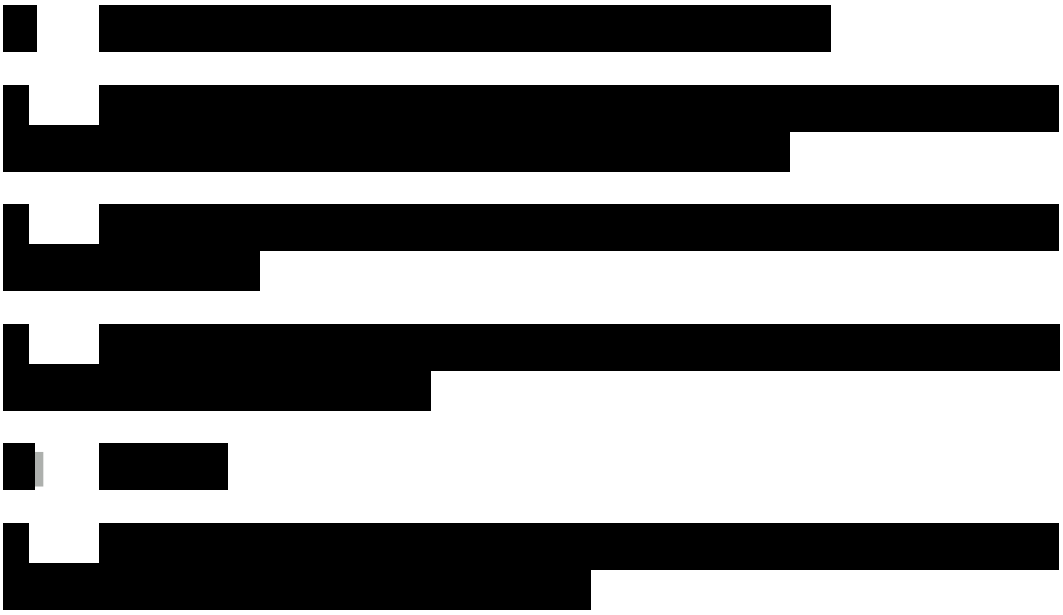
> Support of excavation and underpinning will not be measured, but will be paid for as part of the Base Bid and shall include furnishing all material, mobilization, labor equipment, tools, and incidentals necessary to complete the Work shown of the Contract Drawings and specified herein. No separate measurement or payment will be made for claims associated with collapsing drill holes, acquisition of permits, backfill, equipment, material disposal, construction dewatering, stockpiling, police details, material rehandling, vibration monitoring, tiebacks, regrouping tiebacks, surveying, mitigating measures or other associated items or work considered incidental to the conduct of the Work of this Section.

Exhibit 2.18 at 2472.

25. The bridging documents narrative provided that electricity would be [redacted] Exhibit 2.10 at 497. Distribution of electricity by the main switchgear would include the CUP2, DOC, center building, west addition, and pump house. *Id*. Additionally, the bridging documents provided three bid alternatives for providing emergency power, which included providing new generators. *Id*. at 497-98.

26. Drawing E504 of the bridging documents showed the level B1 tunnel conduit plant. Exhibit 2.19 at 2746. Lines on the drawing were labeled normal power, controls, and emergency power. *Id*. Notes on the drawing required the contractor to "provide" conduit of the proper size for information technology (IT), normal power, emergency power, and controls. *Id*.

27. Section 230533 of the heating, ventilation, and air conditioning (HVAC) specifications described heat tracing for HVAC piping. Exhibit 2.18 at 2176. That section provided, in pertinent part, the following:



Id.

28. Section 230593 of the HVAC regulations provided for testing, adjusting, and balancing of HVAC equipment. Exhibit 2.18 at 2180. Testing and balancing requirements included air systems, hydronic systems, heat exchangers, motors, condensing units, and heat transfer coils. *Id*. The quality assurance section, 1.4, provided for "[American Society of Refrigerating and Air-Conditioning Engineers (ASHRAE)]/[Illuminating Engineering Society (IESNA)] 90.1 section 6.7.2.3 – 'System Balancing.'" compliance. *Id*.

29. The mechanical and plumbing section of the bridging documents narrative advised that [redacted] Exhibit 2.10 at 471. Additionally, that section stated the following:

[redacted]

30. The bridging documents narrative provided, generally, for cooling towers to "be located on the top of the parking garage adjacent to the existing CUP1." Exhibit 2.10 at 470. The heating system would [redacted] *Id*. Section 10.2.3 of the project narrative also addressed the connection of the buildings for providing hot and chilled water, and stated, in pertinent part, the following:

> The majority of the buildings currently served by the MUP [redacted]

Id. at 471. The bridging documents showed a total of four 1300-ton cooling towers for bid alternate 1, which later became bid options 1A and 1B. *Id*. at 468; Transcript, Vol. 5 at 204-07.

31. The bridging documents included drawing MI114, Cooling Plant and Condenser Water Control System of Operations. Exhibit 2.19 at 2716. A general descriptive note on the drawing provided the following:

> [redacted]
>
> The cooling plant consists of [redacted] chillers (CH-1 thr[ough] [redacted] primary system pumps (CHWP-1 [redacted]

Id. at 2716.

32. Another note on drawing MI114, Winter Mode, stated that "cooling tower shall be enabled when chiller is enabled in the start-up mode." Exhibit 2.19 at 2716. The next note, cooling tower winterization and de-icing sequence, stated, in pertinent part, the following:

> A. In the winter season, cooling tower shall be enabled to operate as described above. When the outside air temperature drops below 35 deg[rees] F (adjustable)[,] the cooling tower de-icing sequence will be enabled to run automatically every 2 hours (adjustable) or manually via an operator command . . . .
>
> B. Cooling tower (CT-1) shall be provided with packaged basin heaters. Basin heaters shall be controlled to maintain the basin above the low limit basin temperature. An alarm shall be raised on the BAS workstation on indication of a basin water temperature below the low limit set point.
>
> C. Condenser water pipework exposed to the outside serving CT-1 only shall have heat tracing. The BAS shall enable and disable the heat trace based on outdoor air temperature and schedule. The BAS shall monitor status of the heat trace system at heat trace control panel. On indication of heat trace system failure, an alarm shall be raised at the BAS workstation.

Id.

33. Drawing MI104, which was identified as a "condenser water control schematic," showed condensate sensor (CT)-1 and CT-2. Exhibit 2.19 at 2704, 2707. Beyond CT-1 and CT-2 were five pairs of vertical lines and a note that said [redacted] *Id*. A heat trace panel was shown only for CT-1. *Id*. Certain lines around CT-1 were

"squiggly" lines. *Id*. Drawing P001, which was an index of symbols, defined the "squiggly" line as electrical heat tracing. *Id*. at 2724.

34. Section 27 10 00 of the solicitation, Telecommunications (also referred to as "telecom"), provided the general requirements for telecommunications that included "furnishing of labor, material, equipment, and tools required for the complete installation of the work indicated on the Drawings to include telecommunication room build out, power, pathways, boxes, outlets and all other specified and implied materials." Exhibit 2.18 at 2364. The "project" was defined under that section as "IT Cabling Infrastructure subsystems installation at the [CUP2] facilities." *Id*. That section defined a "Telecommunication Room" as "[t]he enclosed area or room specifically designated for the routing, termination, and/or cross connecting of IT/security system cable to other system cable and/or equipment. [redacted] *Id*. at 2366.

35. GSA scheduled a CUP2 RFQ "bid walk" on April 15, 2016. Exhibit 2048 at 2489. A representative of Balfour participated. *Id*. at 2491. A second "bid walk" took place on July 8, 2016, and representatives of Balfour again participated. *Id*. at 2493-94.

36. On June 24, 2016, GSA issued amendment 04 to the solicitation, which was the request for proposal (RFP), to the "short-listed" firms. Exhibit 2.5 at 288. The RFP stated that the "[c]ontractor shall achieve Substantial Completion of the Work . . . no later than **540** calendar days from issuance of the Notice to Proceed (NTP)." *Id*. at 322. Contract completion would follow sixty days after substantial completion. *Id*. The amendment included a contract price form with separate line items for the base contract, a unit price for the removal of contaminated soils, and three options for equipment that were to be exercised within 365 days from award. *Id*. at 324.

37. On July 18, 2016, the CO issued solicitation amendment 06, which included a request for information (RFI) log. Exhibit 2.21 at 2764. RFI 14 of the RFI log, which addressed drawing E504, asked the following question:

> Drawing E504 shows conduits for IT/Security, Normal Power, Emergency Power and Controls running through the existing utility tunnel. Please clarify what these conduits are feeding, where they originate and end, and provide as-builts for bidder to determine full routing?

Id. at 2778. In response, GSA stated the following:

> The conduits are to be extended to the CUP as indicated on the drawings. The Center Building [general contractor (GC)] will pull their wire and terminate

> in CUP2. There is no need to know the rest of the routing beyond what is shown in the drawings E504. The CUP2 design builder is to only install conduit in the tunnel for the indicated area. Drawings E504 shows the extension of existing conduits in the existing utility tunnel to CUP2. The conduits shall originate at the existing location where they terminate in the utility tunnel and the new conduits shall terminate at the entrance to the utility tunnel from CUP2.

Id. RFI 48 of that same RFI log asked the following question:

> Are we to assume that there are no existing foundations and structures within the limits of excavation or is there a drawing that can be provided showing the extent of structures and foundations systems below grade in this area?

Id. at 2781. In response, GSA stated that "[p]hotos on sheet AD103 are provided to indicate the foundations below grade within the limits of excavation." *Id*. Drawing AD103 was the level B1 demolition plan. Exhibit 2.19 at 2646. That drawing included two photographs, which included "West-East condition prior to CUP1" and "East-West condition prior to CUP1." *Id*. A note over both photographs read "photos below indicate concealed slabs and foundations below grade to be demo'd." *Id*. The photographs showed the power house and surrounding area, and the second photograph had a note that read "concealed foundation walls and slab." *Id*. RFI 104 asked for "structural as-builts for CUP1." Exhibit 2.21 at 2787. GSA identified the location of those drawings. *Id*. RFI 108 asked the following:

> Pre CUP1 photos shown on AD103 indicate an existing concrete structure and steel framing shown in the vicinity of CUP2. It appears that the west side of CUP1 now consists of fill. Please advise if the concrete structures and steel framing were all removed as part of the CUP1 project or if the [D-B] is expected to encounter these structures below the current fill. In addition the borings conducted in the CUP2 vicinity do not indicate any below grade structures were observed in the boring process.

Id. at 2787. GSA responded that "[t]he concrete and steel framing exists." *Id*. The bridging documents included a CUP1 drawing, CUPEX-101, that showed a structure next to building 57, which in the opinion of a GSA witness "looks like railroad tracks" and would indicate that a contractor "would have to dig out heavy concrete and metal." Exhibit 620 at 35550; Transcript, Vol. 5 at 172.

38. The amendment 06 RFI log also addressed requirements for the emergency generators at RFI 95. Exhibit 2.21 at 2786. RFI 95 raised a question about section 15.2.1.1, LAER analysis, of the project narrative and presented the following question:

> In addition to the cost implications, the construction schedule does not allow time for a LAER analysis to be performed to determine whether Tier 2 or Tier 4 generators are required prior to their release. Therefore, a determination must be made on the requirement.
>
> Confirm whether Tier 2 or Tier 4 generators are to be provided as part of this contract.

Id. GSA's response stated the following:

> Without a final LEAR [sic] analysis, it cannot be confirmed that Tier 2 generators are acceptable. Pending confirming, Tier 4 must be used assumed [sic] as the basis for bids at this time.

Id.

39. On July 20, 2016, the CO issued solicitation amendment 07, which provided additional guidance in section 31 2335 of the solicitation. Exhibit 2.22 at 2792-93. RFI 110 in the amendment responded to various inquiries from offerors about the type of soil to be removed. *Id*. at 2794. The amended version of that section advised offerors that they should provide a unit price for the removal of an estimated 50 tons of "In-state, Unlined Landfill" and 3500 tons of "Non-reportable Urban Fill Soils." *Id*. at 2797. Balfour understood those quantities to represent contaminated soils. Transcript, Vol. 1 at 138.

40. On July 22, 2016, the CO issued amendment 08. Exhibit 2.23 at 2798. That amendment provided that bid alternate 1 would include the installation of the new 2500 kW generator at level G1 of the CUP2, and the three 2500 kW generators in the MUP would be transferred to level G1. *Id*. at 2800. Also, bid alternate 1 showed two new generators in level B1, and bid alternate 2 added a third generator to level B1. *Id*. However, amendment 08 did not state whether the generators at level B1 were 3000 kW generators as set forth in section 12.4.2 of the project narrative.

41. On August 9, 2016, GSA issued solicitation amendment 09. Exhibit 2.26 at 3005. That amendment responded to question 119 regarding whether the contractor was required to provide hot and chilled water to the center building by September 2017. *Id*. at 3023. Amendment 09 confirmed that requirement as part of option 1a, which was

previously option 1. *Id*. Additionally, amendment 09 included a contract price form for the offerors with contract line item numbers (CLINs) one through nine. *Id*. at 3018. CLIN 1 was the base contract price, and CLINs 2 and 3 were the unit price and allowance for contaminated soil. *Id*. CLIN 4 was option 1A for center building equipment, which was to be exercised within sixty days from award. CLINs 5 through 8, options 1B, 2, 3, and master system integrator, were options for equipment to be exercised within 365 days of award. CLIN 9, option 5, was a premium for an accelerated 365-day schedule. *Id*. Finally, amendment 09 clarified the electrical portion of option 1a as requiring one 3 MW generator. *Id.* at 3007.

42. On August 10, 2016, GSA issued amendment 10 to the solicitation. Exhibit 2.27 at 3025. Amendment 10 clarified question 123 as to whether CLIN 9 applied to the requirement to provide heating and cooling to the center building by September 2017. *Id*. at 3028. The response stated that "[t]he cost to provide heating and cooling to the center building by Sept 2017 should have always been carried in CLIN #2 option 1 phase 2A equipment." *Id*.

43. Balfour submitted cost and technical proposals on July 27, 2016, and revised its proposals on August 12, 2016, in response to solicitation amendments 09 and 10. Exhibits 2.24–2.27. In its cost proposal, Balfour provided a separate unit price, $392,096, for the removal of 3550 tons of contaminated soils. Exhibit 2.25 at 2965. Balfour expected to excavate 60,000 tons of soil, which included both uncontaminated and contaminated soil. Transcript, Vol. 1 at 139-40.

44. With regard to completion of the design of the CUP2 set forth in the bridging documents, Balfour proposed the submission of three design packages. Design package one included the following:

> [Erosion and sediment (E&S)]; grading (interim ravine access ramp to site); site utilities; stability caissons; support of excavation and underpinning of adjacent existing foundations; foundations and under slab [mechanical, electrical, and plumbing (MEP)] developed as 100% construction documents for review.
>
> Long lead equipment and structure will be developed and submitted as a 90% construction document for review and comments.
>
> Complex architecture; landscape; mechanical; electrical; plumbing and fire protections will be developed and submitted as 50% construction documents for review and comments.

Exhibit 2.24 at 2875. Design package two included the following:

> 100% construction documents for long lead equipment and complete structure. The Balfour Beatty / [Hammel, Green, Abrahamson, Inc. (HGA)] design-build team includes Kirlin and Helix as design-build MEP subcontractors who will be able to provide equipment product data and other manufacturer submittal[s] for review to expedite release for fabrication of the equipment.
>
> Complete architecture; landscape; mechanical; electrical; plumbing and fire protection will be developed and submitted as 90% construction documents for review and comments.

Id. at 2875-76. Design package three stated "100[%] construction documents for architecture; landscape; mechanical; electrical; plumbing and fire protection will be developed and submitted as 90% construction documents for review and comments." *Id*. at 2876. In accordance with the contract, GSA would have fifteen days in which to review each design package. *Id*.

45. Balfour's proposal included a preliminary planning schedule, which had been prepared by HGA, that assumed an award date of August 30, 2016. Exhibit 2.24 at 2852. The activity "Mass Excavation / Demo Large Retaining Wall / Dewatering" had a start date of December 26, 2016, and a finish date of March 20, 2017. *Id*. at 2854. The duration of that activity was sixty days. *Id*. Balfour described the sequence of work as follows:

> Once we receive approval on the requisite land disturbance and other related environmental permits, we will begin to install erosion and sediment control measures, tree protection and the construction entrance. Our schedule contemplates the following initial sequence of events for excavation of the building footprint:
>
> • Conduct initial laser scanning to document positions of existing buildings / implement necessary vibration control and movement monitoring
>
> • Precut to elevation 27.50 and remove small retaining wall in order to drill H piles along 56 and 57 / drill and install requisite bracket piles and underpinning along Building 56 and 57 followed by stability caissons
>
> • Drill H piles along north / east sides and begin mass excavation / shoring / lagging down to elevation 27.50

- Install balance of stability caissons
- Resume mass excavation to subgrade
- Implement weekly monitoring of supportive excavation and Buildings 56, 57, and 52

Id. at 2885-86. In preparing its proposal, Balfour planned on removing only those concrete structures and obstructions shown on drawing AD103. Transcript, Vol. 3 at 104-06.

46. The design concepts volume of Balfour's proposal stated that "[f]uel oil storage will be provided for use by the boilers and emergency generators." Exhibit 2.24 at 2831. Two tanks, each with a capacity of 20,000 gallons, will be set in the fuel oil storage rooms at the B2 level. *Id*. With regard to generators for emergency power, Balfour provided the following:

> During the phased construction, three 2,500 kW, 13.8 kV diesel generators will be moved to CUP2 where they will be paralleled with one (1) new 2,500 kW, 13.8 kV diesel generator to serve the DOC building. Additionally, three (3) 3,000 kW, 13.8 kV diesel generators will be provided to serve the emergency bus backing up both CUP2 and selected campus buildings. There will be separate paralleling gear provided for the 2,500 kW generators and 3,000 kW generators.

Id. at 2824.

47. Balfour's proposal included its design concept for how it would provide chilled and hot water. Exhibit 2.24 at 2823. Balfour stated the following:

> We are providing capacities as required, but have revived the selection and control of equipment so a more energy-efficient design is achieved. . . . Even at the lower energy use, we can maintain redundancy, serving the full load of six (6) 1,300 ton chillers at a 12 degree range. This meets the intent of one tower per chiller and uses the additional tower as an asset to increase efficiency.

Id. Balfour, additionally, represented the following:

> On both the chilled water and heating hot water loops, we are integrating with an existing distribution that will be re-activated to serve occupied and

> currently unoccupied buildings. Each building will be connected either through a heat exchanger or directly connected via a decoupling "bridge." Our plant design will account for elevations and total system pressure to allow direct coupling of all buildings planned for the CUP2 loop, or we will identify where heat exchangers are required to isolate pressure. This will give St. Elizabeth's [sic] the maximum flexibility in tying the buildings to the central plant. Further, the control points needed to coordinate between . . . each building and CUP2 will be indirectly connected, making the transitions of adding buildings easier to coordinate.

Id. at 2833-34.

48. Balfour's proposal also included a list of most significant risks related to the project and the means by which it would mitigate those risks. Exhibit 2.24 at 2893-95. Among those risks, Balfour noted storm water management, unforeseen site conditions, and groundwater. *Id*. With regard to storm water management, Balfour recognized that the approval process with DOEE would be forty-five days and that it might encounter the need for multiple reviews. *Id*. at 2893. Balfour's approach to unforeseen site conditions included early detection and extended work hours that would be implemented to keep the project on schedule. *Id*. at 2894. In dealing with groundwater, Balfour indicated that it could use an alternate method of collecting discharge in temporary tanks and discharging it offsite. *Id*. at 2895.

49. In an email dated July 15, 2016, ZGF advised GSA as to how it determined "estimated quantities (tons) of soils to be managed in Section 312335." Exhibit 103 at 459544. Although ZGF represented that it had made test borings and limited chemical testing, "[n]o pre-characterization of the soils to be excavated was performed." *Id*. In response, GSA asked ZGF, "Did we have an estimate of how much was contaminated based on the soil studies?" *Id*.

50. On December 16, 2016, GSA awarded contract number GS-11-P-17-MM-C-0002 (contract) to Balfour in the amount of $58,277,096. Exhibit 2.28 at 3033. The contract award included: CUP2 expansion, $41,912,096; center building equipment-option 1A, $7,200,000; and, phase 2A equipment-option 1B, $9,165,000. *Id*. at 3034-35. The amount for CUP2 expansion included $392,096, which was an "allowance for the proper removal and disposal of contaminated soils per ton, as specified in section 312335." *Id*. at 3034.

51. The portion of the contract that consisted of sections I, II, III, and IV was referred to as the "agreement," and it included project information, prices, terms and conditions, and contract clauses. Exhibit 2.28 at 3058-92. The agreement directed Balfour

to commence work within ten days of receipt of the NTP, and the substantial completion date was 540 days from the NTP, with contract completion sixty days after substantial completion. *Id*. at 3060. The liquidated damages rate was $3000 per calendar day. *Id*.

52. The agreement required Balfour to "use a Critical Path Method ('CPM') Project Schedule to plan, coordinate, and perform the Work." Exhibit 2.28 at 3064. In general, the contract required that the schedule "shall be a rational, reasonable and realistic plan for completing the Work." *Id*. Within thirty days from the NTP, the contract required Balfour to submit its project schedule to the CO "describing the major design and construction activities." *Id*. Within thirty days after completing final design, the agreement required Balfour to submit a revised project schedule. *Id*. at 3065. Finally, the agreement required monthly schedule updates from Balfour. *Id*.

53. The agreement incorporated by reference Federal Acquisition Regulation (FAR) clauses: 48 CFR 52.211-12 (2015) (FAR 52.211-12 (SEP 00)), Liquidated Damages–Construction; FAR 52.211-18, Variations in Estimated Quantity (APR 84); FAR 52.233-1, Disputes (MAY 14); FAR 52.236-2, Differing Site Conditions (APR 84); FAR 52.236-3, Site Investigation and Conditions Affecting the Work (APR 84); FAR 52.236-7, Permits and Responsibilities (NOV 91); and FAR 52.243-4, Changes (JUN 07). Exhibit 2.28 at 3086, 3089-90. For purposes of interpreting the specifications and drawings, the agreement provided that "[d]ifferent requirements within the Contract Documents shall be deemed inconsistent only if compliance with both cannot be achieved." *Id*. at 3066. In the case of inconsistency, the agreement set forth the following order of precedence:

(1) Section IV of the Agreement
(2) Sections I, II, and III of the Agreement
(3) The Statement of Work
(4) The Specifications
(5) The Drawings
(6) Exhibits and Attachments

Id. at 3069-70.

II. Contract Performance

54. On December 20, 2016, GSA issued to Balfour an NTP. Exhibit 7. Balfour and GSA held a "kick off" meeting on that same date, and GSA advised Balfour that its design team would have to "accommodate a change to 3.5MW generators inside of CUP 2 in lieu of 3MW generators." Exhibit 1 at 74. GSA also changed the date for Balfour to provide heating and cooling to the center building from September 2017 to December 2017.

Id. After contract award, Balfour and HGA conducted a validation of the bridging documents, which was required under the contract, section 011000. Exhibit 2.18 at 1601; Transcript, Vol. 2 at 51.

55. GSA issued revised NTPs on January 10 and 17, 2017. Exhibits 8, 10. The revised substantial completion date under the terms of the contract, which was 540 days from the NTP, was June 20, 2018, and the final completion date was August 20, 2018. Exhibit 10.

A. Balfour's Schedule and Excavation of Contaminated Soil[10]

56. On February 20, 2017, Balfour submitted its first monthly schedule narrative. Exhibit 138 at 535539. Balfour acknowledged an NTP of January 27, 2017, and a project duration to substantial completion of 540 days. *Id*. at 535541. Activity P1040, "Submit Stormwater Management / E&S Permits for DOEE Stormwater Permits," had a start date of February 3, 2017, with a duration of one day and zero days of float. *Id*. at 535545. Activity P1050, "DOEE Review / Issue Stormwater Management Permits (calendar days)," had a forty-five day duration and zero days of float. *Id.* Activity A6140, "Mass Excavation / Demo Large Retaining Wall / Dewatering," had a start date of April 19, 2017, and a finish date of July 11, 2017, with zero days of float. *Id*. at 535547.

57. On February 27, 2017, Procon Consulting LLC (Procon) prepared for GSA a baseline schedule analysis of Balfour's schedule. Exhibit 138 at 53555. Procon found twenty-seven inconsistencies in Balfour's schedule. *Id*. at 535565-66. Among those, Procon noted in inconsistency 9 that "[t]he final baseline schedule should contain, at a minimum, 2,000 activities; presently there are only 217." *Id*. Procon concluded by advising GSA that "the baseline schedule is not compliant and recommends that the listed above comments . . . be fixed." *Id*. at 535566. GSA directed Balfour to resubmit the schedule. *Id*. at 535537. Among the reasons for returning the schedule, GSA noted that Balfour's schedule included options not yet awarded, "lumped together" activities, and no allowance for weather delays. *Id*.

58. On February 22, 2017, Balfour applied to the DOEE for its E&S permit. Exhibit 2339 at 3259. During that same time period, Balfour learned that GSA had not performed a soil pre-characterization study as specified in the contract. *Id*. In an email dated March 6, 2017, Balfour asked GSA to identify the firm that would be responsible for soil pre-characterization. Exhibit 146 at 354155.

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[10] As stated in the introduction to this decision, this appeal consists of nineteen separate claims. The facts unique to each claim are set forth chronologically in separate sections.

59. On March 20, 2017, GSA revised section 31 2335 of the specification, which made Balfour's testing agency, rather than GSA, responsible for the pre-characterization program. Exhibit 2127 at 57322-25. The revised specification stated, in pertinent part, the following:

> 2. The *Contractor's Testing Agency* ~~COTR~~ shall arrange for and conduct, as [necessary], additional chemical testing required by the Contractor-proposed receiving facilities. The types and frequencies of testing shall be determined by the receiving facility. and approved by the *COTR*. Government's environmental consultant. Testing shall be conducted under normal turnaround conditions (i.e., 2-week turnaround testing time).

Id. at 57325 (strikeouts and italics in original). Subsequently, GSA directed Balfour on April 5, 2017, to propose a price for soil pre-characterization. *Id*. at 57284-85.

60. Balfour contracted with GeoConcepts Engineering, Inc. (GCE) to conduct a soil pre-characterization at the site, and GCE collected soil samples at test pits on June 29 and July 6, 2017. Exhibit 218 at 31235. GCE submitted a written report, which was dated July 14, 2017, to Balfour. *Id*. at 31232. The report "noted that the concentrations of lead in many samples were found to be at levels that might not be accepted at contaminated soil recycling facilities such as Soil Safe, Inc." *Id*. at 31244. On July 20, 2017, Balfour submitted to GSA its request for change order (RCO) 015 for soil pre-characterization in the amount of $390,047. *Id*. at 31225. In an email dated July 27, 2017, Balfour advised GSA that it had completed the "upper half" of soil pre-characterization and requested direction for proceeding with deeper exploration. Exhibit 2129. GSA directed Balfour to proceed. *Id*. Balfour completed its soil pre-characterization program on August 23, 2017. Exhibit 2339 at 3260. Balfour encountered contaminated soil shortly after the start of excavation in September of 2017, and its records showed that it hauled a total of 55,760 tons of contaminated soil on ninety-three hauling days, from September 12, 2017, to July 19, 2018. Exhibit 2340 at 5764-66; Transcript, Vol. 1 at 115 (Balfour's witness testified that the quantity removed was 55,906 tons).

61. On January 23, 2018, GSA informed Balfour that the contract required submission of a design-build network analysis schedule within thirty days of the NTP and that Balfour had failed to submit an approved schedule. Exhibit 40 at 3337-38. GSA noted that "[n]umerous promises to deliver a baseline schedule have not been met." *Id*. at 3338.

62. Balfour submitted its revised schedule to GSA on January 25, 2018.[11] Exhibit 330 at 224393. Activity P1115, "DOEE Review / Issue E&S permit," showed a start date of January 30, 2017, and a finish date of February 24, 2017, with zero days of float. *Id*. at 224400. In the sitework section of the resubmitted schedule, Balfour showed for activity A6010, "BBC Mobilize Site Trailers," a start date of January 18, 2017, and a finish date of January 26, 2017, with five days of float. *Id*. at 224406. Activity A6090, "Install Construction Entrance / Access Road," showed a start date of March 1, 2017, and a finish date of March 15, 2017, with zero days of float. *Id.* Activity A6050, "Strip Site / Remove Small Retaining Wall / Asphalt Sidewalk," showed a start date of March 16, 2017, and finish date the next day with zero days of float. *Id.* Activity A6150, "Relocate Site Lighting Electrical Conduits," had a start and finish date of March 16, 2017, with zero days of float. *Id.*

63. Balfour's January 25, 2018, schedule submission for excavation, tiebacks, and caissons showed a start date of March 18, 2017, and a finish date of July 26, 2017, which was a 133-day duration. Exhibit 330 at 224406. Relevant activities during that 133-day period included start and finish dates for support of excavation (SOE) piles, excavation of six tiers and the subgrade, caissons, and related activities such as lagging and drilling tiebacks. *Id*. at 224406-07. Tier one installation of SOE piles consisted of two activities, one through eighteen, with a start date of March 18, 2017, and a completion date of March 24, 2017, and nineteen through thirty, with a start date of March 24, 2017, and a completion date of March 28, 2017. *Id.* at 224406. Excavation at tier one began on March 28. *Id*. at 224406. Tier two excavation, which consisted of two activities, followed with a completion of the second activity on April 10, 2017. *Id*. Caisson installation had a start date of April 4, 2017, and a finish date of June 22, 2017, which was an eighty-day duration. *Id*. Caisson installation consisted of eight activities for seventy-one caissons. *Id*. at 224407. Caisson design had an original start date of December 28, 2016, and, after GSA review, had a completion date of March 6, 2017. *Id*. at 224399. Tier three excavation had a start date of June 15, 2017, and excavation to tiers four, five, six, and the subgrade followed. *Id*. Caisson installation constituted a significant period, eighty days, out of the 133-day duration for schedule submission for excavation, tiebacks, and caissons. *Id.* at 224405. Completion of caisson installation controlled the start of tier three excavation and, in turn, the excavation of the remaining tiers and subgrade.

64. On February 22, 2018, Procon reviewed Balfour's schedule and noted that it still had "outstanding issues" but "reluctantly advise[d] that the Baseline schedule be

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[11] Balfour's January 23, 2018, schedule submission showed planned dates for activities that had already occurred, and as shown in subsequent schedule updates, those dates were not met.

accepted as noted." Exhibit 349 at 0176478. Additionally, Procon deferred to GSA and AFG the final decision to accept Balfour's schedule. *Id*. In an email dated March 19, 2018, GSA advised Balfour that the substantial completion date was three months away and GSA had not yet received a schedule. Exhibit 364 at 409150. Balfour submitted an updated schedule on May 31, 2018, which projected a completion date of September 27, 2019. Exhibit 392 at 616014.

65. On June 29, 2018, Balfour submitted another updated schedule, which also projected a completion dated of September 27, 2019. Exhibit 412 at 616050. Activity P1115 of the June 29, 2018, update, "DOEE Review / Issue E&S permit," showed a start date of February 22, 2017, and a finish date of May 3, 2017, with no mention of days of float. *Id*. at 616052. Activity A6090, "Install Construction Entrance / Access Road," showed a start date of May 23, 2017, and a finish date of June 29, 2017, with no mention of days of float. *Id*. at 616060. Activity A6050, "Strip Site / Remove Small Retaining Wall / Asphalt Sidewalk," showed a start date of May 25, 2017, and a finish date of August 4, 2017. *Id*. at 616060. Activity A6150, "Relocate Site Lighting Electrical Conduits," had a start and finish date of July 17, 2017. *Id*. Balfour did not assign any days of negative float to those activities. *Id*.

66. Balfour began excavation on September 29, 2017, at the first tier, and planned to finish excavation at the subgrade on July 2, 2018. Exhibit 412 at 616061-62. The duration for sitework, which included excavation, had a negative float of 236 days during the period from March 3, 2017, to May 23, 2019. *Id*. At 616060. Activity A2540, "Substantial Completion," showed a finish date of May 29, 2019, with a negative float of 343 days. *Id*. at 616085. The schedule update also showed that activity P1159, "Caisson Design - Revise and issue [Issued for Construction (IFC)]" had a finish date of January 15, 2018. *Id*. at 616051. Balfour started caisson installation on January 15, 2018, and finished on March 5, 2018. *Id*. at 616061.

67. On June 1, 2018, Balfour submitted RCO 062 to GSA, which claimed delay costs for 334 calendar days in the amount of $5,815,307; that amount was revised upward from the previous claimed amount of $4,716,558. Exhibit 2139 at 482776; Exhibit 93 at 6496. Balfour contended that the start of excavation was delayed when GSA modified the contract and placed responsibility for soil pre-characterization on Balfour, which delayed the start of excavation until September 5, 2017. *Id*. at 482778. Balfour had planned to conduct excavation by using two shifts a day, but it was able to use only one shift per day due to the amount of contaminated soil, which lengthened the duration of excavation. *Id*. at 482779. Additionally, Balfour contended that contaminated groundwater and underground obstructions further delayed excavation. *Id*. at 482779-80.

68. By letter dated September 4, 2018, GSA provided AFG's delay analysis of Balfour's schedule updates from January 25, 2018, which was the baseline, and May 31, 2018. Exhibit 62 at 4996-97. AFG noted that the schedule updates made no mention of soil pre-characterization, and Balfour was late in starting SOE activities, dewatering activities, and caisson installation. *Id*. at 4496-98. AFG stated the following:

> Per the baseline schedule the contractor was planned to start mobilization 18 Jan 2017. Per the May progress schedule the contractor did not actually start mobilization until 3 Mar 2017, 44 [calendar days (cd)] later. The narrative provided did not include an explanation for this delay. Per the baseline excavation was intended to start . . . on 28 Mar 2017. Per the May progress schedule, this did not actually start until 29 Sep 2017, 185 cd later. The narrative indicates the materials testing and inspection being added to Balfour Beatty's scope by modification and the soil precharacterization had a significant impact on the critical path of the schedule. . . . GSA does not believe [Balfour] was prepared to start excavation activities indicated in the [time impact analysis (TIA)].
>
> . . . .
>
> Many activities along the critical path took longer than planned indicating [Balfour] did not plan well. Activity A7970 Install SOE Piles 1-18 ended up being driven by SB315000-170 Support of Excavation and Underpinning–Order & Fabricate which per the May progress schedule submission actually completed on 05 Sep 2017, 180 cd later than planned. This activity appears to have slipped as a result of the additional 196 cd for activity C1010 Bid and Award Support of Excavation/Underpinning Contract and the additional 98 cd for activity SB315000-100 Support of Excavation and Underpinning activity – prepare and submit submittals. Per the May progress schedule, the slippage resulting from the extended duration of these activities are [sic] actually what caused the excavation to not start until 5 Sep 2017. Also, per the May progress schedule mobilization appears to have been delayed due to activities SB316326-10 Stability Caissons–Prepare & Submit and SB316326-170 Stability Caisson–Order & Fabricate Materials taking longer than planned to complete. The slippage in the substantial completion of the project is due to the delays in the caissons submittal activities along with extended time to complete the installation of various caissons, drill and install bracket piles, and the excavation, lagging and drilling for the 3rd tier tie backs. The impact indicated in the narrative was not reason for this delay.

Exhibit 62 at 4499-4501. Additionally, AFG stated that "[t]here are a total of 1139 critical and near critical activities in the current Progress Schedule, 616 more than the baseline." *Id.* at 4501. That number "represent[ed] over 99.8% of the total remaining number of activities in the schedule." *Id.* AFG also noted that no more than twenty percent of such activities should be critical or near critical. *Id.*

69. GSA issued contract modifications in response to Balfour's RCOs that paid $6,275,550 for the increased cost of removing and disposing of contaminated soil and extended the substantial completion date to May 31, 2019. Exhibits 81, 93, 2094, 2095, 2097, 2101, 2102, 2105, 2107, 2110, 2115, 2342 at 4-6.[12] GSA, however, contended that time extensions were only granted to keep the contract open for purposes of making payments. Exhibit 2343. Accordingly, GSA did not compensate Balfour for the cost of delay, and in its October 19, 2018, letter, Balfour reserved its right to claim that cost. Exhibit 2143 at 741703.

B. IFC and Architect's Supplemental Instruction (ASI) Documents

70. On January 23, 2017, Balfour expressed its concerns about the change from 3.0 MW to 3.5 MW generators and the location of other equipment. Exhibit 2152 at 945981. Balfour advised GSA of "bridging design deficiencies some of which will not support the GSA approved final concepts." *Id.* With regard to the change to 3.5 MW generators, Balfour stated the following:

> GSA has also issued a change request to upsize the 3.0MW generators required by the bridging design documents to 3.5MW because these generators do not have adequate capacity for their intended purpose. Localized floor to floor height modifications of the structure on the B-1 and G-1 levels will be required for these tier 4 generators to be installed with appropriate clearances.

Id. Additionally, Balfour noted that "[t]he structural foundation for the CUP2 . . . will not properly support the building and equipment prescribed in the contract." *Id.*

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[12] The contract modifications that paid increased costs for removal of contaminated soil were the following: PS11, $693,003 (Exhibit 2094 at 16264); PS12, $977,087 (Exhibit 2095 at 16270); PS13, $93,673 (Exhibit 2097 at 16275); PC16, $722,088 (Exhibit 2101 at 16177); PC17, $2,209,719 (Exhibit 2102 at 16183); PC19, $1,176,464 (Exhibit 2105 at 16198); PS21, $83,402 (Exhibit 2107 at 16286); PS25, $290,118 (Exhibit 2110 at 16301); and PS32, $29,996 (Exhibit 2115 at 16321).

71. Balfour's meeting minutes from a January 31, 2017, building design variance meeting addressed whether the 2.5MW generators to be moved from the MUP and the new 2.5MW and 3.5MW generators would require either a "Tier 2" or "Tier 4" permit. Exhibit 2305 at 588205-06. Balfour noted that a Tier 4 permit would require "scrubbers" that would increase the roof height at the G1 level. *Id*. at 588206. Additionally, Balfour noted that "HGA provided a layout on the B1 level [that] will allow enough space for all 3.5MW generators to be installed with scrubbers." *Id*. With regard to the mat slab, Balfour stated that "Bridging Drawings show 18 [inch] mat foundation, but Silman calculations provided in RFP show 24 [inch] mat foundation." *Id*. at 588208. Additionally, Balfour stated the following:

> Punching shear calculation Silman came up with is different than what HGA has. Both firms use the same program but there may be inconsistencies with results. Firms to talk off-line about program processes to determine how to resolve this.

Id. Finally, Balfour noted that its calculation reviews had indicated the option of either a thirty-inch foundation "with deep foundations at columns and perimeter" or a uniform forty-eight-inch foundation. *Id*.

72. On February 8, 2017, Balfour sent GSA RFI D0017, which addressed other issues related to the increased generator size. Exhibit 2153 at 514834. Balfour stated the following:

> Revisions to the B1 and G1 air intake and exhaust design to accommodate the upsized 3.5MW generators inside CUP2 including the addition of a raised grate at the B1 level to provide the required headroom and intake air. An exhaust shaft with grating and safety railing is added in the grass cover on the G1 roof.

Id. GSA's response to Balfour's February 20, 2017, submission of its schedule addressed Balfour's concerns about Tier 4 requirements for the generators, and GSA noted that the Tier 4 requirements for the generators were established during the bidding process and no schedule change was required because of the change from 3 MW to 3.5 MW generators. Exhibit 138 at 535537. Balfour's schedule showed that it completed submission of its design package 2A, cooling towers, generators, and electrical gear on April 21, 2017, and design package 2B, balance long lead equipment, and structural on May 25, 2017. Exhibit 412 at 616051-52.

73. On July 10, 2017, GSA issued bilateral modification PS06, in which Balfour agreed "to provide all labor, supervision, equipment, and materials for the scope of work to provide two (2) 3.5 MW generators inside the CUP2 in lieu of the 3 MW generators as an ADD to the contract in the amount of $1,726,125." Exhibit 2089 at 16233-35. That modification did not authorize a time extension. *Id*. at 16235.

74. On October 30, 2019, Balfour submitted RCO-076, "IFC and ASI Docs – Owner Costs," which totaled $2,892,858, for increased costs related to the bridging documents and GSA's direction to provide 3.5 MW instead of 3.0 MW generators. Exhibit 2076 at 2761. HGA, Balfour's A/E subcontractor, claimed $164,933 for building revision costs and $39,582 for mat slab and foundation walls. *Id*. at 2769, 2771. Generally, the added costs were related to increasing the thickness of the mat slab and foundation walls, changing air intake and exhaust, and changing roof height and design. *Id*. at 2766-71. Balfour's various subcontractors claimed costs related to the various contract divisions that included concrete, masonry, metals, thermal and moisture protections, openings, finishes, equipment, plumbing, HVAC, electrical, and exterior improvements. *Id*. at 2762-63.

C. Temporary Utilities to the Center Building

75. By letter dated December 20, 2016, GSA summarized the "kick off" meeting and informed Balfour that solicitation amendment 10 placed under CLIN 2 the requirement for Balfour to provide utilities to the center building by September of 2017. Exhibit 1 at 74. GSA stated the following: "In due diligence with the original bridging requirement based on a September 2016 award, GSA request[s] the heating and cooling to be provided for the center building by December 2017 in lieu of September 2017 in order to provide 365 days to complete this task as initially promised." *Id*.

76. Several GSA employees who were involved with the CUP2 project met on December 18, 2017, to discuss alternatives to using the CUP2 to provide heating and cooling to the center building as it appeared that it would not be completed in time for move-in by DHS. Exhibit 2171 at 428309; Transcript, Vol. 6 at 104-05. Their discussion included the possibility of upgrading the MUP, which was to be demobilized, to provide temporary utilities to the center building, and they also discussed the possibility of having that work done by another contractor or Balfour. Exhibit 2171 at 428318. The view was also expressed that Balfour "need[ed] to provide a solution or at least partial." *Id*. A GSA employee testified about the need for heating and cooling to the center building as follows:

> You had to have heating and cooling to the building prior to its final completion in order to close in. If you're building a building, you're installing drywall you're doing commission and all these other things, you can't do

> without heating and cooling or else you start to build mold . . . . You don't start utilities the day before your planned occupancy.

Transcript, Vol. 6 at 105-06.

77. On March 7, 2018, Balfour submitted its proposal, RCO 047, which was based on its cost breakdown CE-0148, to upgrade the MUP to provide temporary utilities to the center building at a cost of $2,550,143. Exhibit 2174 at 362079-84. Modifications to the MUP included removal of existing chilled water pumps and hot water pumps and the installation of two "trailer-mounted 500 ton air cooled chillers with integral pumps and install piping to temporary connections to north side of MUP." *Id*. at 362080. The trailer-mounted chillers were to be rented for a nine-month period. *Id*. Electrical work included the installation of a temporary generator and fuel tanks. *Id*. During the preparation of its proposal, Balfour did not plan on using the MUP to provide utilities to the center building. Transcript, Vol. 1 at 240. Balfour's witness testified to the following:

> Q Just to clarify your testimony, you did not consider the MUP upgrade as part of the contract because Balfour's bid was already too high?
>
> A. That was part of the reason. And quite frankly. I'll be honest with you, I don't know that we ever contemplated the MUP being an option. It would've been great. You know, if the Government would have perhaps, you know, stated in the RFP that, you know, contractors are free to consider to use the MUP. I'm just being honest with you.
>
> . . . .
>
> And if we had been sharp enough, you know – we consider ourselves being pretty sharp, but we weren't sharp enough to figure that, you know, that the MUP might be an option. But again, if we were to entertain the MUP, obviously what we're showing you today, it would've probably added another, you know, $2.5 million, a little over $2 million to our proposal which was already high to begin with is what I'm trying to explain.

Id. at 241-42.

78. In an email dated March 8, 2018, GSA acknowledged receipt of Balfour's proposal for temporary utilities to the center building and directed Balfour to proceed with the work. Exhibit 2174 at 362077-78. GSA stated the following:

> [t]his notice shall serve as a Notice to Proceed. You are hereby directed to proceed with the scope of work defined under CE-0148 Temporary Utilities to Center Building, Saint Elizabeths West Campus. It is intended that a formal contract modification shall be executed within three weeks of the date of this notice.

Id.

79. On April 27, 2018, the CO executed unilateral modification PO15, which had an effective date of March 8, 2018, and directed Balfour "to proceed with the MUP scope to provide heating and cooling to the Center Building." Exhibit 2099 at 995722-24. The modification additionally stated the following:

> The expansion of the MUP is NOT an out-of-scope add on project, as this scope has always been a requirement under the . . . contract.
>
> On March 20, 2018, [Balfour] was informed that the MUP upgrade was on page 3 of Amendment #9 dated August 9, 2016, and issued under the solicitation, and thus is base bid scope. This amendment was subsequently incorporated into the Final Contract.
>
> This [modification] provides [Balfour] the authority to dismantle, replace and re-purpose existing government owned equipment at the Modular Utility Plant as a temporary means in order to meet their contract timeline for providing heating and cooling to the Center Building while their CUP2 construction is delayed. This method was not approved at award.

Id. at 995724. On June 12, 2018, Balfour disputed GSA's direction to proceed with modifying the MUP at no cost and stated that it intended to request an equitable adjustment for the cost of such work. Exhibit 2184 at 480071. On October 25, 2019, Balfour submitted to GSA RCO 047R2 in the amount of $2,152,491 for the cost of providing temporary utilities to the center building. Exhibit 2074 at 499.

D. Contaminated Groundwater

80. By letter dated August 29, 2017, Balfour informed GSA that it had been working on finding a groundwater discharge location and it had submitted a permit application to DOEE on June 14, 2017. Exhibit 2192 at 993189. Balfour also advised GSA that it had received a sampling well permit from DOEE on August 28, 2017, but it would still have to develop a water treatment plan for DOEE. *Id*. Balfour, however, added that

"contaminant levels were such that further classification of the groundwater was required per DOEE in order to secure approval to discharge to the Municipal Separate Storm Sewer System (MS4)." *Id*. In an email dated September 29, 2017, Balfour advised GSA of the following:

> After contract award, Balfour Beatty took samples of the groundwater, which revealed that the groundwater does exceed the EPA Primary Drinking Water Maximum Contaminant Levels criteria. As a result, Balfour Beatty cannot pump the groundwater into the storm sewer without installing additional wells for sampling and testing, and would have to chemically treat the groundwater before pumping it into the storm sewer. At this time, the rough order of magnitude of costs for sampling wells and testing, and subsequent chemical treatment is $300,000.

Exhibit 2195 at 550594.

81. On October 10, 2017, Balfour advised GSA that it had obtained from the District of Columbia a permit to install thirteen sampling wells, but it had installed only two. Exhibit 2198 at 828142. Balfour referenced an attached October 10, 2017, email from the District of Columbia Water and Sewer Authority (DC Water) regarding the test results from the two wells. *Id*. at 828144. DC Water informed Balfour that "[i]f you are in an MS4 area and this is non-wastewater flow (i.e. groundwater or storm runoff), it cannot be discharged to sanitary, as it does not exceed any of our discharge limitations. If you are in a combined sewer area, then you may discharge to sanitary." *Id*. at 828144. Balfour concluded its email by stating that it had two options: "1) [c]ontinue with two more wells and testing, hoping for favorable results to discharge to sanitary[; or] 2) [c]ontinue with balance of wells (11 additional, 13 total) to fully characterize the groundwater and submission to DOEE." *Id*. at 828142. Finally, Balfour stated that "it is highly likely that we will need to discharge to storm, but will require a chemical treatment system after full water characterization is complete." *Id*.

82. By letter dated November 14, 2017, Balfour notified GSA that the groundwater at the site was contaminated, which was a differing site condition. Exhibit 2201 at 805007. Balfour contended that it had relied on HAI's geotechnical report, which represented that the groundwater "did not exceed any of the EPA National Primary Drinking Water Maximum Contaminant Levels criteria." *Id*. Based upon that reliance, Balfour intended to pump groundwater into the storm sewer. *Id*.; Transcript, Vol. 1 at 149. After commencing work at the site, Balfour learned that in May of 2007, GSA had received a report, which was prepared by Greenhorne & O'Mara, Inc. (GOI), of a dioxin remedial investigation at the St.

Elizabeths West Campus. Exhibit 2123; Transcript, Vol. 1 at 150. The report stated the following:

> Concentrations of detected chemicals, in particular metals, dioxins, and furans, exceed various human health screening levels indicating the possibility of risk to human health. The results of the human health screening do not necessarily signify unacceptable risk, but rather, indicate that risk cannot be assumed to be negligible and additional study of the potential for exposure and adverse effects is warranted.

Exhibit 2123 at 58640.

83. In an email dated February 16, 2018, DOEE forwarded to Balfour its "approval letter, with monitoring and reporting conditions, to discharge groundwater to the District's Municipal Stormwater Sewer System." Exhibit 2211 at 797728-29. On that same date, Balfour's email to DOEE acknowledged receipt of its letter that approved "[Balfour's] chemical treatment system and approval for discharges to the MS4." *Id*. at 797728. Additionally, Balfour stated, "We understand that the attached documents should satisfy all remaining requirements to discharge to the MS4 and it is our intent to mobilize the treatment system shortly and begin discharging within the limits of this authorization from DOEE." *Id*. The approval documents also included Balfour's stormwater pollution prevention plan (SWPPP), which had been prepared on April 14, 2017. *Id*. at 797730. On October 23, 2019, Balfour submitted to GSA RCO 068R1 for costs related to contaminated groundwater. Exhibit 88 at 5865. Balfour's claim, which included subcontractor costs, totaled $1,411,519. *Id.*

E. Buried Concrete Caissons and Foundations

84. By letter dated November 14, 2017, Balfour notified GSA "of an unforeseen buried concrete structure to the north of the Powerhouse (Building 56/57)." Exhibit 2230 at 818019. Balfour also stated that "[t]his structure was not shown on the bridging documents or any as-built information . . . prior to submitting our design-build proposal for the CUP2 project." *Id*. In an email dated January 24, 2018, Balfour summarized a previous discussion with GSA's representative that it was "authorized to proceed with obstruction removal and will not stop work to await direction from GSA as long as notification has been provided to GSA." Exhibit 2236 at 99028. GSA responded to Balfour on January 25, 2018, and stated the following:

> As you know, there are a number of references in the contract bridging documents regarding what is a differing condition. Structures consistent with

> coal handling equipment in a coal handling yard are not a differing condition. Structures consistent with a railroad in a coal handling yard served by railroad do not constitute a differing condition. Notice of underground structures was provided with Bridging [documents].

Id. In general, Balfour contended that it had encountered underground obstructions that included "bell" caissons, a buried coal bunker, and other unidentified obstructions. Transcript, Vol. 3 at 100-11.[13]

85. On May 22, 2018, Balfour submitted to GSA its request for equitable adjustment (REA) in the amount of $597,029 for subsurface conditions. Exhibit 2239. Balfour contended that it had encountered "shallow foundation footings and deep foundation belled caissons" at the project site that were not indicated on the contract documents that GSA provided before contract award. *Id*. at 767096. Additionally, Balfour contended that shop drawings of the power house from 1955 showed the presence of nineteen subsurface caissons. *Id*. at 767097. The 1955 drawings, however, were in GSA's archives, and the persons involved in preparing the solicitation did not know of the existence of those drawings until after contract award. Transcript, Vol. 5 at 170-71, Vol. 6 at 163-64.

86. Balfour submitted to GSA three RCOs for costs related to subsurface caissons and other underground structures at the site. On May 23, 2018, Balfour submitted RCO 051R1, caisson obstructions, in the amount of $45,101, and RCO 052R1, remove existing caissons, in the amount of $544,803. Exhibits 2240 at 944103, 2241 at 93152. On August 28, 2018, Balfour submitted RCO 077, remove underground structure, in the amount of $43,349. Exhibit 2243 at 988724.

F. 100% Backup Power to the DOC A

87. On June 12, 2017, Balfour submitted RFI D0051.2 to GSA regarding its obligation under the contract to provide 100% backup power to the DOC A. Exhibit 2249 at 575644-45. Balfour stated the following:

> Option 1 is as discussed in a meeting between GSA . . . and Design-Build team on May 19, 2017. Option 1 has no cost.

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[13] Balfour's witness drew a distinction between the "bell" caissons, which it encountered during excavation, and the stability caissons that were later installed as part of the project. Transcript, Vol. 3 at 107.

> However[,] while drafting this revision based on our discussion, we found a flaw with this design. Per the bridging narrative, GSA plans to eventually back up 100% of the DOC (9MW) from the MUP generators (See attached table from bridging narrative). This option would be limited to only providing emergency power to loads that are downstream from a DOC transfer switch and at a maximum of 3.3MW because of the size of the DOC emergency substation transformer. Backing up the rest of the DOC would require rework of the normal feeders to the DOC so they could be connected to the generator distribution as proposed in Option 2 below.

Id. at 0575645. Balfour proposed second and third options for providing 100% backup power at additional costs of $200,000 and $240,000, respectively. *Id*.

88. In its June 23, 2017, response to RFI D0051.2, GSA informed Balfour that "[t]he interpretation is for [Balfour] to reconnect the DOC power sources from the MUP to the CUP2. Not to increase redundancy." Exhibit 2250 at 583169. On June 26, 2017, GSA reiterated that same guidance in response to Balfour's question as to whether it was supposed to proceed with "Option #1." Exhibit 2251 at 498039.

89. By letter dated May 3, 2018, Balfour noted that GSA's recent communications stated that the contract required "emergency power backup to the DOC-A project for normal power in addition to life safety loads." Exhibit 2252 at 487434. Balfour contended that such recent directions contradicted GSA's direction with regard to RFI D0051.2. *Id*. In response, GSA advised Balfour by letter dated May 14, 2018, that Balfour had failed to understand the requirements of the contract. Exhibit 2253 at 771318. GSA's letter stated the following:

> The bridging drawing E610 only shows the 3MW Generators (now 3.5MW) inside the CUP 2 to support the campus buildings and are described with general notes. There is no reference what so ever to the DOC A generators or emergency power. The only reference to DOC A is the normal power connection. ZGF did not design the DOC A generator connection because they gave clear direction to HGA/[Balfour] what needs to be designed and accounted for in the bridging contract narrative documents. . . . The DOC A normal load and emergency load are the same. This has never changed.

Id. On October 25, 2019, Balfour submitted RCO-069R1, 100% Backup Power to DOC-A, in the amount of $311,630. Exhibit 2258 at 993522.

G. Campus Loop and Expansion Tank Pressure

90. On April 26, 2017, Balfour sent GSA RFI D0058, which sought clarification as to its options for connecting buildings to the campus loop. Exhibit 2260 at 600942-44. Citing section 10.2.3 of the bridging narrative, Balfour contended that it had two options, which included either "a heat exchanger . . . [or] a 'zero pressure' bypass . . . called a bridge." *Id*. at 600944. In a subsequent April 28, 2017, email to GSA, Balfour requested a meeting regarding its options for connections to buildings and stated the following:

> We have two options
>
> 1) Include direct connections for Center B[uilding], there will be costs for the three added 2,000 gal[lon] expansion tanks, which currently do not fit, nor were accounted for in the bridging documents.
>
> 2) Provide heat exchanger at Center B[uilding] with no impact to [CUP2].

Exhibit 2262 at 613371.

91. By letter dated June 8, 2017, Balfour notified GSA of a changed condition regarding the pressurization of hot and chilled water for the campus loop. Exhibit 2267 at 509225. Balfour's letter stated the following:

> On April 26, 2017, we submitted RFI D0058 to document the information we had at the time indicating potential over pressurization of the system and requested design documents for DOC A and the Center Building which were not provided as part of the RFP design Bridging Documents. Pursuant to this RFI, a meeting was held on May 3, 2017 and follow-on RFI D0058.1 was submitted to capture potential solutions discussed during this meeting.
>
> Note that the Bridging Documents provided two options for connections between CUP2 , the campus loop, and buildings they serve, one of which is a direct or bridged connection and the other is a decoupled connection using heat exchangers. As indicated in our proposal submission, we evaluated the option to directly connect the buildings where elevations of these building[s] allow and identified where heat exchangers would be required to isolate building pressures.

Id. Balfour contended that GSA's direction to develop schematics for both options was a change to the contract. *Id*. Balfour also recommended the option that isolated the center

building and the DOC A but noted that doing so would require additional expansion tanks. *Id*. at 509225-26.

92. On July 27, 2017, in response to Balfour's RFI D0058.1 (campus loop connection), GSA addressed the earlier May 3, 2017, discussion of "the connection between the CUP2 Building, campus loop and the buildings it serves." Exhibit 2274 at 562361. GSA stated the following:

> GSA is asked to "review the information provided and advise which option GSA would like us to proceed with." The RFI requests GSA choose one of two offered solutions only. Technical solutions to the problems enumerated with RFI 58.1 exist and should be utilized by the [engineer of record].
>
> GSA will support placing heat exchangers into the Center Building, the DOC A, and all future campus buildings. [Balfour] is to proceed to full 100% design based on use of heat exchangers at building connections, not direct connections.

Id. at 562365. In separate correspondence, which was also dated July 27, 2017, GSA stated that Balfour "was well aware of the building connection concern prior to bid according to [Balfour's] own text." Exhibit 24 at 3268. Balfour's witness explained that the bridging documents did not account for elevation changes that increased pressure within the campus loop, which required additional expansion tanks and other equipment. Transcript, Vol. 3 at 21-22.

93. On October 6, 2017, GSA issued unilateral modification PC09, which directed Balfour "to provide design work to complete the heat exchanger design option in order to separate the DOC A building from the campus loops." Exhibit 2093 at 16165. The modification obligated $90,000 and further stated that GSA would continue to negotiate a final price with Balfour. *Id*. In its letter dated June 1, 2018, Balfour reiterated its position to GSA that drawing M607 required only one expansion tank, each, for chilled water and heated water. Exhibit 2290 at 482805. On January 21, 2019, Balfour submitted RCO 044R3 for the campus loop pressure class change in the amount of $305,997. Exhibits 81 at 4978, 2294 at 852231.

H. Legal and Consulting Fees

94. Balfour received invoices from its legal counsel during the months of March, April, and June through December of 2018, and January and March of 2019. Exhibit 2041 at 1840. Those invoices referenced the CUP2 project at St. Elizabeths but provided no

further detail about the services rendered. *Id*. Delta Consulting Group (Delta) submitted invoices to Balfour for the months of April, May, August, September, October, and November 2018. Exhibit 2059. Delta's invoices for April and May of 2018, indicated preparation of a request for a time extension. *Id*. at 1853-57. On October 21, 2019, Balfour submitted to GSA RCO 092 for legal and consultant costs that totaled $252,800. Exhibit 585 at 945816. Balfour claimed legal fees in the amount of $180,662 and consultant fees from Delta in the amount of $44,485. *Id*. at 945817.

I. Winterization of Additional Cooling Towers

95. By letter dated January 23, 2017, Balfour informed GSA that "[t]he cooling towers required in the mechanical equipment schedule on sheet M-606 of the bridging documents cannot be provided with the ultra-low noise option specified." Exhibit 1 at 165. Balfour's meeting minutes for the design review meeting, which occurred on January 31, 2017, noted the following:

> 3. Sizing for CUP loads
>
> a. The Design-Builder reviewed all loads impacting cooling towers and the model number in the bridging documents is not sized appropriately.
>
> b. Multiple options were evaluated to meet all necessary requirements.
>
> c. By adding an additional tower, all requirements can be met.

Id. at 171.

96. In its letter dated July 12, 2017, Balfour submitted to GSA its proposal, RCO-003R, for an additional cooling tower in the amount of $572,129. Exhibit 1 at 131. On July 25, 2017, GSA issued bilateral modification PS07, "to provide all labor, material, and equipment for an additional cooling tower for the CUP2, including associated piping, startup and commissioning assistance." Exhibit 2090 at 16242. That modification obligated an additional $572,129. *Id*. Additionally, the modification provided that "[s]ettlement of this change includes all associated costs, direct and indirect, impact and delay." *Id*. at 16240.

97. In an email dated November 30, 2018, the senior engineer for AFG, GSA's construction manager, raised with Balfour the question as to why only two of the five cooling towers would be needed during the winter. Exhibit 2317 at 994250. In response, Balfour asked why AFG was questioning an approved design. *Id*. In a subsequent email, which was dated January 29, 2019, Balfour stated that the "[w]inter cooling loads are typically 10-15%

of summer loads." *Id*. at 994242. Additionally, Balfour represented that "2 cooling towers cells (1300 tons each) winterized" have "N+1 capacity even in winter." *Id*.

98. GSA's assistant chief engineer advised AFG's senior engineer in a December 21, 2018, email that "catastrophic failures" had been experienced and that "all cooling towers be available for all operations at all times and in all weather conditions." Exhibit 2317 at 994248. The email further stated that "all towers must be heat traced and have . . . fiberglass insulation on the exposed piping." *Id*. In a subsequent email, which was dated December 28, 2018, AFG's senior engineer again asked Balfour why it believed that only two cooling towers would be needed during the winter. *Id*. at 994246.

99. By letter dated March 2, 2019, Balfour disputed AFG's December 28, 2018, email that sought justification for the use of only two cooling towers during the winter. Exhibit 2317 at 994240. Balfour stated the following:

> The RFP is clear that only one cooling tower shall be required for winter operation. [Balfour] actually corrected a bridging design deficiency by heat-tracing and insulated a second cooling tower to provide N+1 redundancy during winter operation, for which we were never compensated and are entitled to equitable adjustment.

Id. Balfour summarized its letter by stating its disagreement with AFG that all five cooling towers require heat trace and condenser insulation. *Id*.

100. GSA's March 15, 2019, letter advised Balfour that "[h]aving two available cooling towers in the winter helps but does not meet what the government has expected as a reliable, safe and efficient design as stated in [Balfour's] RFP proposal dated July 27, 2016." Exhibit 2314 at 847957. GSA stated that Balfour's "design renders the government to be limited to the same one to two cooling towers in the winter every year." *Id*. Additionally, GSA stated the following:

> To have heat tracing of all towers is essential to operation, not a luxury or redundancy factor.
>
> Furthermore:
>
> 1. ASHRAE Standard 90.1-2013 expanded the use of economization in more climate zones. For buildings that use winter economizers, the cooling towers must operate year round.

> 2. The Basis of Design for the cooling towers is Marley NC8414WCNB cooling towers.
>
> 3. Manufacturer instructions describe de-icing procedures at the discretion of operators. Recommended de-icing procedure includes reversing the fan for 2 minutes, plus a 10 minute delay before re-starting the tower. When N+1=2, one tower at a time may be down for repairs. De-icing plus having one tower down could not occur at the same time unless HGA says we can operate with zero cooling towers for 12 minutes. Therefore 2 towers insulated is less than N+1 because de-icing is part of normal recommended operation.
>
> 4. ASHRAE point out it is more economical to operate all fans at the same speed than taking single fans to full speed before starting the next. To illustrate, if 2 towers are operational, running two fans at 50% uses 1/4 the power of a single fan at 100%. Extending this to multiple towers means lower fan energy use.
>
> 5. Page 12 of the Marley NC8414WCN8 cooling tower specification (see attachment), references the Marley "Operating Cooling Towers in Freezing Weather" technical manual.
>
> 6. Page 6 of the "Operating Cooling Towers in Freezing Weather" technical manual (see attachment) requires the use of heat trace for lines filled with water exposed to subfreezing ambient conditions.
>
> ** Why did [Balfour] install and charge GSA for sump heaters in 4 towers if only two would operate in winter? Limiting available towers means less use of economizer mode. Operating more towers means more energy savings. The predicted energy usage during operation normally has implications for LEED.
>
> The Contractor is to install the cooling towers in accordance with the manufacturer's recommendations.

Id. at 847958. Finally, GSA's letter referenced the general terms of the contract that require the contractor to validate and update equipment layout and requirements. *Id*. Marly's specifications, which were referenced in GSA's letter, stated that "[w]hen the ambient air temperature falls below 0º C, the water in a cooling tower can freeze." *Id*. 847971. Additionally, Marley's specifications cited Marley Technical Report #H-003, "Operating Cooling Towers in Freezing Weather," which described how to prevent freezing during

operation. *Id*. Marley's technical paper, "Cold Weather Operation of Cooling Towers," noted that "[i]f a system is shut down without draining, heat must be added in exposed areas as shown in **Figure 17**." *Id*. at 847989 (emphasis in original). Figure 17 showed lines to the cooling tower that were shaded to represent "[h]eat [t]raced," and the caption showed "[l]ocations which require heat tracing to protect from freezing in shutdown conditions without draining." *Id*. Finally, that technical paper noted that "ASHRAE Standard 90.1-2013 expanded the use of economization in more climate zones." *Id*. at 847984.

101. On May 6, 2019, Balfour responded to the issues raised in GSA's March 15, 2019, letter. With regard to the use of only two cooling towers during winter, Balfour argued that "these towers are redundant to each other and can be rotated throughout the winter season to achieve some level of diversification." Exhibit 2314 at 847942. Generally, Balfour argued that the use of all cooling towers during the winter would require "flows four times greater than the system would require, thus wasting energy." *Id*. Balfour did acknowledge that the towers not used during the winter would have to be drained. *Id*. at 847943.

102. In response, GSA reiterated that Balfour's design would limit GSA's "ability to operate if there is an issue with one or both of the only cooling towers you have chosen to heat trace." Exhibit 2314 at 847931. GSA also advised that it would no longer argue the matter. *Id*. On October 4, 2019, Balfour submitted RCO 128 in the amount of $155,241 for winterizing three cooling towers. Exhibits 93 at 6496, 2317 at 994252.

J. Relocation of Condenser Water Pump VFD Conduits

103. Balfour's November 16, 2017, letter to GSA gave notice of a differing site condition in which "[t]he feeder conduits from the main electrical room in the CUP1 out to the VFD's for the CUP1 condenser water pumps are in conflict with designed slab penetration of the LL1 slab in CUP1 for the condenser water supply and return piping for CUP2." Exhibit 37 at 3320. Balfour contended that the conduits were not shown on any of the provided as-built drawings, and it had taken x-rays to determine the location of the conduits. *Id.* GSA was not aware of the existence of the conduits. Transcript, Vol. 6 at 204.

104. By letter dated December 13, 2017, GSA responded to Balfour's notice of a differing site condition and advised that "it remains [Balfour's] responsibility to conduct investigation, design, and successfully implement[] that design." Exhibit 2318 at 98609. GSA's letter cited section 017300 of the specifications, which required the contractors "to investigate and determine the existence and location of underground utilities and other construction." *Id*. GSA's letter also noted that "[t]he standard of the electrical industry is often not to show the exact conduit route." *Id*.

105. By letter dated June 14, 2018, Balfour responded to GSA's December 13, 2017, letter, contending that Balfour had to change its design because the as-built drawings for the CUP1 did not show the location of 480-volt conduits imbedded in the LL1 slab and that failure to show those conduits would be unsafe. Exhibit 2049 at 1931. On May 20, 2019, Balfour submitted to GSA RCO 060R1 in the amount of $128,025. Exhibit 2322 at 943814.

K. Center Building Conduits Within CUP2

106. By letter dated September 17, 2018, GSA responded to Balfour's previous telephone call regarding responsibility for connecting conduit to the center building. Exhibit 2061 at 1997. GSA noted that Balfour "owns the responsibility to design and install conduit for the Center Building as an inherent part of the interim milestone of providing infrastructure for utilities for the Center Building." *Id*. With regard to RFI 14, which addressed questions about drawing E504, GSA noted that it "describ[ed] the meeting point of the conduits in [CUP2] yet to be designed." *Id*. GSA's witness testified to the following:

> They're asking – it says, Drawing E504 shows conduit for IT security, normal power, emergency, and Control was running through the existing tunnel. Please clarify what these conduits are feeding, where they originated, and provide as-built for bidders to determine for routing. Think we might have provided as-builts for the tunnel, which is actually part of what was on that sheet. But these conduits go through the tunnel and ultimately end at the center building and all this stuff, emergency power to the center building.
>
> So there's a pathway that has to get to the building. And my response was in regards to where they terminate it inside the tunnel. There's two big junction boxes in the tunnel where these conduits terminate at because there's already existing conduit that runs and connects to the actual building. So in this scope of work, Balfour Beatty only had to install conduit to those termination points and into their CUP2 building to wherever they ultimately put their gear.

Transcript, Vol. 5 at 215-16. Balfour's witness, a representative of Helix, testified to the following:

> So we had a requirement in our criteria bid documents, and subsequently, our design solution to provide the raceways from our new switchgear to what was shown on the floor plan as the building's edge or foundation wall, and then, an alternate contractor under a different contract adjacent to our building was

> going to take it from there and then pull in the conductors and terminate them on both ends.

Id., Vol. 3 at 52.

107. By letter dated January 31, 2019, Balfour's electrical subcontractor submitted its claim to Balfour for the cost of providing conduits from the existing utility tunnel. Exhibit 2061 at 1979. Helix contended that "[t]he conduits were only shown within the utility tunnel." *Id*. at 1980. Additionally, Helix argued that "GSA's current position [was] that the CUP2 contractor would provide these conduits in accordance with routing to be determined in the future." *Id*. at 1982. On February 8, 2019, Balfour submitted to GSA RCO 096, "Center Bldg Conduits within CUP2," in the amount of $104,453. *Id*. at 1968. The majority of the amount of that claim, $90,966, was for costs claimed by Helix. *Id*. at 1970.

L. CUP1 Structural Overpour

108. On August 29, 2018, Balfour's subcontractor, Lane Concrete Frames (Lane), submitted to Balfour a claim for additional reinforcing. Exhibit 2062 at 2203. By letter dated August 30, 2018, HGA submitted to Balfour a request for additional design services due to unforeseen conditions. *Id.* at 2194. HGA contended that "[d]uring excavation it was discovered that the East wall of CUP1 was out of plumb and alignment." *Id*. Consequently, HGA determined that all disciplines would be affected and proposed changes to structural drawings at a cost of $7075.29. *Id*. at 2195. Balfour's design "was such that the east foundation wall for [CUP1] served as the west foundation for [CUP2]." Transcript, Vol. 3 at 182. Balfour "actually did not have foundation walls on the west side of [its] building." *Id*. Once Balfour began its survey, it discovered that "the thickness of the [CUP1] wall in some locations was drastically thicker than what was indicated, up to four feet thick, when it was supposed to be a foot-and-a-half or two feet thick." *Id*. at 183. On December 14, 2018, Balfour's subcontractor Power Component Systems, Inc. (PCS) submitted a claim for the additional cost of core drilling due to the additional thickness of the CUP1 wall. Exhibit 2062 at 2196. By letter dated March 19, 2019, another subcontractor, Kirlin, submitted a claim in the amount of $28,345, which was due to the CUP1 structure wall thickness. *Id*. at 2240. Kirlin also advised that it had already completed the work and was requesting a change order. *Id*.

109. In its February 14, 2019, letter, Balfour submitted RCO 073 in the amount of $80,880 for costs related to discrepancies between the CUP1 foundation drawing S1.01, which was part of the solicitation, and the actual thickness and location of the foundation. Exhibit 2062 at 2002. Balfour contended that the differing site condition was material

because "the bridging documents indicated a wall thickness of 711mm, while existing conditions varied in thickness between 711mm to 1016mm, while location of the wall varied up to 305mm into the [CUP2] building footprint." *Id*. at 2003. On October 25, 2019, Balfour submitted an amended RCO 073R1, increasing the amount sought to $102,168. *Id.* at 2005-06. Balfour's claim included amounts claimed by Kirlin, Lane, and PCS. *Id*. at 2006.

M. Initial Oil Fill

110. Balfour's letter to GSA, which was dated May 16, 2019, contended that GSA was responsible "for the final fill of the fuel oil and urea tanks for the [CUP2] project." Exhibit 2066 at 2254. Balfour did acknowledge that it was responsible "for urea and fuel oil consumed during the start-up and commissioning process, as well as the transfer of the fuel oil and urea from the existing MUP generators to [CUP2]." *Id*. Balfour further contended that it did not "owe any fuel oil or urea beyond that provided to support start-up and commissioning activities." *Id*.

111. In an email dated May 15, 2019, from GSA to ZGF, GSA's project manager raised the issue of whether Balfour "owe[d] the government a full tank." Exhibit 541 at 42473. GSA also asked about the absence of sections 23 1313 and 23 1323 in the specifications. *Id*. In an email that same day, ZGF informed GSA's project manager that "[t]he above ground fuel oil tanks were included in section 231113." *Id*. at 42472. ZGF noted in an email dated May 17, 2019, that "there is not a specific requirement for [Balfour] to provide filled fuel oil tanks for the project." *Id*. at 42469. GSA's project manager, however, pointed out to ZGF in an email that same day that "section 014200 defines Provide as . . . means to design, procure, furnish, install and commission, as required, complete in place and ready for full use." *Id*.

112. On May17, 2019, GSA's project manager informed Balfour that "[j]ust because the bridging documents do not tell you how many gallons of fuel to put into the new fuel tanks that you are providing per contract does not exclude you from providing fuel." Exhibit 2068 at 2277. Additionally, GSA's project manager stated that if Balfour provided empty fuel tanks, it was not providing full use of the generators and tanks for emergency power. *Id*. On October 22, 2019, Balfour submitted RCO 115 in the amount of $86,995 for the costs of filling three fuel oil tanks with 31,747 gallons of "#2 diesel fuel oil." Exhibit 2070 at 2281. The total capacity of the three tanks was 79,887 gallons. *Id*.

N. SOE Pile and Tieback Drilling Obstructions

113. In a September 7, 2017, email to GSA, Balfour advised that it "had encountered concrete and steel at pile 11 along the north wall line." Exhibit 254 at 439916. Balfour contended that "[t]his obstruction had pushed the drill rig off line and plumb despite numerous [efforts] to remove items." *Id*. By letter dated July 18, 2018, Balfour submitted notice of a differing site condition related to numerous obstructions encountered during excavation of soldier piles and tiebacks." Exhibit 2052 at 2289. Balfour contended in reference to drawing AD103 that those obstructions "were not noted or reasonably inferable on the Bid Documents in the areas where obstructions were encountered during soldier pile and tieback drilling operations." *Id*. Work tickets from the period September 7 to October 25, 2017, from Balfour's subcontractor noted eight tie-back delays that lasted from one to three-and-a-half hours and three SOE pile delays that lasted from one to four-and-one-half hours. *Id*. at 2294. The subcontractor reported extra time drilling through concrete or steel obstructions. *Id*. at 2297-319.

114. On July 18, 2019, Balfour submitted RCO 059. Exhibit 2052 at 2289. On October 25, 2019, Balfour submitted an updated RCO 059, in the amount of $63,993, for costs related to SOE tieback and drilling obstructions. *Id.* at 2290. On December 5, 2019, Balfour submitted a revised RCO 059R1 for that same amount. Exhibit 93 at 6496.

O. Increased Fuel Supply Design

115. On January 31, 2017, Balfour and GSA met to discuss the bridging design, and, among those matters discussed, Balfour represented that the bridging documents required the contractor to provide two 20,000-gallon fuel oil tanks for the generators that could only provide emergency power for twenty-four hours. Exhibit 2305 at 588208-09. However, GSA publication PBS-P100 required that fuel tanks provide seventy-two hours of emergency power. *Id*. Balfour's RFI D0011.1, which was dated February 2, 2017, proposed three 32,000-gallon fuel oil tanks to meet the required seventy-two-hour run time. Exhibit 2018 at 2442-44. Balfour based the fuel oil requirement on three 3.5 MW and four 2.5 MW generators. *Id*. at 2444. Rather than being able to build upon the design in the bridging documents, Balfour had to go "backwards" in order to complete the design for the installation of three, instead of two, fuel tanks. Transcript, Vol. 2 at 203.

116. On June 19, 2017, HGA claimed increased design costs in the amount of $34,904 for providing three, instead of two, fuel oil tanks. Exhibit 2056 at 2437. HGA contended that the additional costs were related to the increased space required for three tanks and access to the tanks. *Id*. In an email dated September 6, 2018, GSA advised

Balfour that additional design costs were not reimbursable because "[a]ll design cost[s] are inclusive to the base scope and are typical to design build." Exhibit 2332.

117. By letter dated September 11, 2018, Balfour submitted RCO-010R3, in the amount of $818,729, for the "direct job cost" of deleting two 20,000-gallon fuel tanks and adding three 26,629-gallon custom sized fuel tanks. Exhibit 2057 at 2450. Balfour's cost did not include design costs. *Id*. On October 3, 2018, GSA issued modification PC18 that increased the contract price in the amount of $818,729 for increased fuel oil storage capacity. Exhibit 2103 at 16184-86. On October 22, 2019, Balfour submitted RCO-010.1R1, in the amount of $39,635, for design costs related to the increased fuel oil tank capacity. Exhibit 2056 at 2435. That amount included HGA's design cost of $34,904, which was a 100% design cost. *Id*. at 2441.

P. Repair of Brick Pilasters

118. In a memorandum dated October 2, 2017, to Balfour from Bell Architects (Bell), Bell advised Balfour of the results of its September 28, 2017, survey of the condition of the north wall of building 56/57, the power house, after excavation. Exhibit 2048 at 2471. Bell contended that excavation "had exposed additional areas of deterioration beyond what was identified in the Historic Structures Report (HSR) by [WJE]." *Id*. By letter dated November 1, 2017, Balfour's subcontractor Berkel & Company Contractors, Inc. (Berkel) advised Balfour of the condition of below-grade brick masonry and pilasters that had been exposed after excavation at the north wall of building 57, which was part of the power house. Exhibit 2033 at 2513. Berkel's letter noted that "[t]he level of the deterioration in the brick masonry that was previously below grade results in diminished structural capacity." *Id.* at 2514.

119. By letter dated November 14, 2017, Balfour gave notice to GSA of a differing site condition due to concerns about "deterioration and damage to the structural masonry pilasters on the Powerhouse." Exhibit 2048 at 2466. Balfour cited the presence of loose and wet soil inside the building. *Id*. Also, Balfour stated that it "was not afforded the opportunity to tour Building 56/57 during the site walk or at any time prior to the bid date." *Id*. Finally, Balfour noted that "we are not able to safely complete our contract work to install underpinning below the Powerhouse building foundations." *Id*.

120. In its letter dated November 16, 2017, GSA responded to Balfour's notice of a differing site condition at the power house. Exhibit 2048 at 2486. With regard to the facade brick, GSA noted that the growth of trees in the brick facade above grade had been documented before bidding, and Balfour had no reason to expect a different condition below grade. *Id*. Similarly, GSA informed Balfour that the presence of wet soil in the power house

had also been disclosed before bidding. *Id*. In a subsequent email dated November 17, 2017, GSA challenged Balfour's contention that it had been denied the opportunity to tour the power house before bidding but also acknowledged the lack of any documentation as to those areas that were toured on April 15 and July 8, 2016. *Id*. at 2487. GSA's witness testified that repair of the pilasters "would be in their base scope if they felt they needed to make repairs in order to underpin, as they knew the condition of the building." Transcript, Vol. 6 at 226.

121. On June 13, 2018, Balfour submitted RCO 063, in the amount of $30,166, for the repair of brick pilasters at building 57. Exhibit 2048 at 2451. On October 22, 2019, Balfour updated RCO 063 to reflect an amount of $29,130. *Id.* at 2452. The largest portion of Balfour's claim was for costs, which totaled $25,995, from United Building Envelope Restoration, LLC (UBER). *Id*. at 2456. UBER's claim consisted of the following:

> Pressure wash 7 brick piers.
> Point/replace broken/missing brick at six piers.
> Rebuild face of brick pier as indicated in referenced Memorandum.
> Approximately 600 brick included
> Mortar type N per Memo. Color to match existing
> Repair brick @ door opening
> Pointing mortar to match existing

Id. By letter dated July 15, 2019, Balfour issued a change order to its subcontractor Strittmatter Metro, LLC (Strittmatter) that included a back charge in the amount of $2691 for brick damage at building 57. *Id*. at 2463. Balfour's claim included a credit for that amount. *Id*. at 2452. Also, Balfour's claim noted with regard to mortar "type N" that "[c]olor matched to existing as approved by GSA historical architect." *Id*. A photograph of the side of building 57 shows the area damaged by Strittmatter and a typical repaired pilaster. *Id*.

Q. Telecom Security Scope

122. On April 17, 2017, Balfour submitted RFI D0010.1, which sought further clarification on telecom and security requirements. Exhibit 2023 at 2534. Balfour stated the following:

> The RFP is silent on telecom/security requirements. As a response to RFI D0010 and review comments received in BP-1, we received a layout of door security, phone and camera requirements, sizing requirements for the telecom room to be included in CUP2, and details for device infrastructure.

Id. In a subsequent letter, dated June 8, 2017, Balfour referenced a May 9, 2017, design-build team meeting, and Balfour concluded that "a dedicated telecom closet within the CUP2 building [was] not accounted for in [the] RFP bridging documents." Exhibit 2026 at 2521.

123. On October 4, 2018, GSA issued modification PC18, which obligated additional funding for RCO 56R1 "to provide all labor, materials, and equipment to provide an additional telecom room, so the project receives the required IT services." Exhibit 2031 at 16184, 16192. GSA, however, advised Balfour in a previous email, which was dated September 6, 2018, that it would not fund the design costs for that additional telecom work as it was already part of Balfour's proposed design costs. Exhibit 2332. On October 24, 2019, Balfour submitted RCO 056.1, in the amount of $13,825, for the design costs related to the telecom room. Exhibit 2026 at 2523.

R. Electrical Gear Size Increase

124. By letter dated May 19, 2017, Balfour informed GSA that "[t]he Normal and Standby electrical gear scheduled in the Design Package 2A drawings have been upsized to address several concerns." Exhibit 2328 at 99202. Citing sections 10.2.4 of the bridging narrative and 6.5.2.3 of the P-100, Balfour contended that the "main switchgear must have 25% spare capacity and circuit capacity." *Id*. Additionally, Balfour asserted that the National Electrical Code (NEC) sections 430.24 and 220.18A "require[d] that the total calculated load be based on 125% of the largest motor load plus the sum of the other connected loads." *Id*.

125. On September 12, 2018, Balfour submitted RCO 002R1, electrical gear size increase, to GSA in the amount of $1,827,540. Exhibit 2058 at 2558. On October 3, 2018, GSA issued modification PC18 that provided funding in the amount of $1,827,540 for "all labor, materials, and equipment to increase the size of the Normal and Standby electrical gear to accommodate future loads of [the] campus, as the building design docs didn't fully depict the size of electrical equipment." Exhibit 2103 at 16189. GSA, however, did not allow additional funding for the design related to the increased electrical gear size. Exhibit 2332. On October 21, 2019, Balfour submitted RCO 002.1 to GSA, in the amount of $13,159, for the design costs related to the increase of electrical gear size. Exhibit 2058 at 2559.

S. Automatic Transfer Scheme for Unit Substations

126. On November 29, 2017, Balfour submitted to GSA RFI 0063, which requested guidance as to whether substations required Kirk-Key interlocks. Exhibit 2334 at 48126. Balfour noted that "[t]he bridging documents showed Kirk Keys, however, page 175 of the

2015 P100 required auto-transfer." *Id*. GSA's December 19, 2017, letter directed Balfour to comply with the P-100 and "proceed with auto transfer scheme." Exhibit 2335 at 93934.

127. By letter dated January 4, 2018, Balfour submitted to GSA a notice of a changed condition because of GSA's direction to proceed with an automatic transfer scheme. Exhibit 2336. GSA's email, which was dated February 2, 2018, acknowledged that "[t]he automatic transfer switch is required on double ended switch gear in accordance with the 2015 P-100." Exhibit 2037 at 2757. By letter dated March 2, 2018, Balfour submitted RCO 038R2, in the amount of $389,177, for the costs of providing an automatic transfer scheme for unit substations. Exhibit 2040 at 2566. On October 11, 2019, GSA issued modification PS26, which obligated $300,000 for an automatic transfer scheme for unit substations. Exhibit 2111. On October 23, 2019, Balfour submitted to GSA RCO 38.1, in the amount of $1693, for the design costs related to providing the automatic transfer scheme. Exhibit 2040 at 2568.

III. Completion of the Contract

128. By letter dated September 25, 2019, GSA informed Balfour that the CUP2 project was accepted as substantially complete as of September 19, 2019, and GSA further advised Balfour that final acceptance would be within sixty days from that date. Exhibit 82 at 4986. Contract modification PA29, which was dated December 30, 2019, extended the period of performance completion date to February 1, 2020.[14] Exhibit 601 at 16160. The duration of the contract from NTP, January 17, 2017, to the date of substantial completion, September 19, 2019, was 975 calendar days, and the duration from NTP to performance completion, February 1, 2020, was 1110 days.[15] The final contract price under modification PS37, which had an effective date of October 5, 2020, was $79,385,175.[16] Exhibit 617 at 16352. GSA did not assess liquidated damages. Transcript, Vol. 1 at 20.

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[14] Contract modification PS32, which was dated February 12, 2020, extended the contract completion date from February 1 to May 5, 2020, and contract modification PS36, which had an effective date of June 5, 2020, extended the contract completion date to June 30, 2020. Exhibit 615 at 16343. Those "contract modifications were issued for administrative purposes to extend the contract time for specific work only." Exhibit 623 at 616472.

[15] Balfour contends that the contract duration was 1132 calendar days. Appellant's Post-Hearing Brief at 71.

[16] Balfour contends that the contract price increased by 36%. Appellant's Post-Hearing Brief at 71.

IV. Balfour's Claim and the COFD

129. Balfour submitted various RCOs to GSA, during and after the contract performance period, that totaled $34,559,023. Exhibit 93 at 6496. Out of that total, GSA approved payments that amounted to $21,208,124. *Id*. On February 26–27, 2019, Balfour and GSA engaged in a mediation at the Board, but the mediation did not result in any final settlement. Exhibit 86 at 5816. On November 1, 2019, Balfour submitted to the CO its claim in the amount of $13,350,899. *Id*. Balfour's claim is summarized in the table below:

Subsection	Description	Damages
A	Contaminated Soil in Excess of Contract Allowance (RCO No.062R2)	$4,716,558
B	IFC and ASI Docs – Owner Costs (RCO No. 076)	$2,867,313
C	Temporary Utilities to Center Building (RCO No. 047R2)	$2,152,491
D	Contaminated [Groundwater] (RCO No. 068R1)	$1,411,519
E	Subsurface Caissons and Foundation Elements (RCO No[s]. 051R2, 052R2, 077R1)	$610,548
F	DOC A 100% Emergency Backup (RCO No. 069R1)	$311,630
G	Campus Loop and Expansion Tank Pressure Class Specifications (RCO No. 044R3)	$289,723
H	Legal and Consulting Fees (RCO No. 092R1)	$252,800
I	Winterization of Three Additional Cooling Towers (RCO No. 128)	$155,241
J	Relocation of Condenser Water Pump VFD Conduits (RCO No. 060R1)	$128,025
K	Center Building Conduits within CUP2 (RCO No. 096)	$104,453
L	ASI-020, ASI-022 [CUP1]Structure Overpour (RCO No. 073R1	$102,168
M	Provide Initial Fuel Oil Fill – Bridging Volume (RCO No. [115])	$86,995

N	SOE Pile and Tieback Drilling Obstructions (RCO No. 059R1)	$63,993
O	Design Costs – Increased Fuel Oil Storage Capacity (RCO 010.1R1)	$39,635
P	Repair of Brick Pilasters at Building 57 (RCO No. 063)	$29,130
Q	Design Costs – Telecom and Security Scope (RCO No. 056.1R1)	$13,825
R	Design Costs – Electrical Gear Size Increase (RCO No. 002.1	$13,159
S	Design Costs – Automatic Transfer Scheme for Unit Substations (versus Kirk Keys) (RCO No. 038.1)	$1,693
	Total	$13,350,899

Id. at 5818-19.

130. The contracting officer, in a COFD dated December 31, 2019, denied Balfour's claim in its entirety. Exhibit 1 at 22. Balfour's claim and the COFD's findings for each of the above RCOs is set forth below.

A. Contaminated Soil in Excess of Contract Allowance (RCO No.062R2)

131. Balfour claimed delay costs for 334 calendar days in the amount of $5,815,307[17] that resulted from removing 55,906 tons of contaminated soil, which was fifteen times the 3550-ton estimate of contaminated soil in the solicitation. Exhibit 86 at 5824. In its claim, Balfour contended that the start of excavation was delayed from March to September of 2017 because GSA changed the contract requirement for soil pre-characterization. Additionally, "[t]he duration of [Balfour's] work was effectively doubled . . . when no local facility was available to accept a second shift of excavated contaminated

[17] Balfour's post-hearing brief references adjusted costs based upon the audit of its claim instead of the costs set forth in its claim. Appellant's Post-Hearing Brief at 69. Balfour, however, is appealing the COFD, which references the costs set forth in Balfour's claim. This decision cites those claimed costs. As this appeal does not involve quantum, the Board does not find the evidentiary record to be sufficiently developed to make any determination regarding the validity of Balfour's adjusted costs.

soil disposal." *Id*. at 5825. Finally, Balfour attributed its delay to the additional factors of contaminated groundwater and underground obstructions. *Id*.

132. The CO denied Balfour's delay claim, finding that the claimed delay was due to "late mobilization for excavation, late approval of permits from DOEE, late dewatering activities, and late caisson activities." Exhibit 1 at 10. The COFD also referenced a January 23, 2018, letter from GSA that had informed Balfour that the submission of an approved schedule was more than a year past the NTP date. *Id*. at 44. The COFD also referenced GSA's September 4, 2018, letter to Balfour, *see* Exhibit 62, that noted that the contractor caused delays related to "late mobilization for excavation, inability to properly plan construction, late approval of permits from DOEE, late dewatering activities, and late caisson activities." Exhibit 1 at 10.

B. IFC and ASI Docs – Owner Costs (RCO No. 076)

133. Balfour claimed $2,867,313 for the costs related to GSA's direction to change the specified 3.0 MW generators in the contract to 3.5 MW generators. Exhibit 86 at 5826. According to Balfour, the change in generator size resulted in an increase of the height of the G1 and B1 levels, which also required the design of a "pop-up roof." Additionally, the increased generator size required the design of the intake and exhaust airways. *Id*. Those changes in design required additional materials, such as concrete and masonry and mechanical equipment. *Id*. Finally, Balfour contended that the increased generator size also required an increase in the size of the fuel tanks, and Balfour had to redesign the room that housed the fuel tanks with the addition of hatches to access the tanks. *Id*. at 5827. Finally, Balfour alleged the following:

> In addition, the changes driven by the increased generator size also resulted in costs in the form of concrete, masonry, and other miscellaneous expenses. These included a reduction in the number of building columns as the grid spacing was revised. The overall heavier loads per column required a more robust foundation system. More specifically, the weight of the perimeter walls was not accounted for in the original mat foundation analysis performed in the Bridging Design Documents. To account for the weight GSA had not taken into consideration, [Balfour's] final geotechnical report, prepared during the Bridging Design Validation Process recommended a revision from 30 pounds per cubic inch (pci) to 50 pci.

Id.

134. The COFD denied Balfour's claim for increased costs related to the generators and determined that Balfour had not begun its design when GSA directed the change in generator size, and Balfour's proposed increase of $1,726,125 for the bilateral modification should have included those costs related to the change. Exhibit 1 at 10-11. With regard to Balfour's increased costs related to airflow, the COFD contended that Balfour had to comply with DOEE requirements for emissions, and Balfour was at fault for not accommodating in its design the "Selective Catalytic Reduction units" that have to be installed on top of the generators. *Id*. at 11. With regard to Balfour's claim for additional material costs, the COFD referenced section 011000 of the specifications that placed responsibility for completing design with the contractor. *Id*.

C. Temporary Utilities to Center Building (RCO No. 047R2)

135. Balfour claimed $2,152,491 for providing temporary heating and cooling and backup power to the center building. Exhibit 86 at 5827. "The interim solution proposed by Balfour . . . and accepted by GSA . . . consisted of a temporary upgrade and expansion of the existing [MUP] and of the emergency generator at the Main Electric Service Vault (MESV)." *Id*. Balfour worked with GSA to finalize a design, and Balfour completed the work. *Id*. at 5828. Subsequently, GSA issued a unilateral modification to the contract for providing temporary services to the center building with no additional funding. *Id*. Balfour contended that "[t]his functionally resulted in GSA giving itself double recovery at [Balfour's] expense for an issue that GSA itself caused, by forcing [Balfour] to take on mitigation work at no cost while GSA's only contractual right to assess damages for delay was through imposing liquidated damages." *Id*.

136. GSA denied Balfour's claim for the cost of providing temporary utilities, heating, and cooling to the center building by modifying the MUP. Exhibit 1 at 11. The COFD noted that the contract required Balfour to provide utilities to the center building within 365 days after the NTP, but GSA extended the due date for providing utilities to April of 2018 because of delays during construction at the center building. *Id*. at 11-12. Balfour, however, had not made sufficient progress on the CUP2 project to provide utilities by that date, and Balfour proposed modifications to the MUP to provide temporary utilities. *Id*. at 12. The COFD also contended that GSA never agreed to pay for those modifications to the MUP. *Id*.

D. Contaminated Groundwater (RCO No. 068R1)

137. Balfour claimed that it was entitled to $1,411,519 for the costs related to treating and removing contaminated groundwater, which it contended was a differing site condition. Exhibit 86 at 5829. In support of its claim, Balfour argued that "the contract

documents indicated that the water was not contaminated and even met [EPA] standards for drinking water." *Id*. Balfour described the groundwater at the site as "both too clean to be discharged into the DC Water sanitary water system for treatment and too dirty to permit discharge to [the] Coast Guard HQ containment pond (then to the MS4 system and ultimately into tributaries [to the Chesapeake Bay])." *Id*. at 5830. Due to those circumstances, Balfour had to pump water from a lower to higher elevation at the site to storage tanks. *Id*. Initially, Balfour had to haul away the groundwater in the tanks, but it later received a discharge permit from DOEE that required Balfour to treat the groundwater at the site. *Id*.

138. The COFD denied Balfour's claim for costs related to removing contaminated groundwater. Exhibit 1 at 12. The COFD's reasons for denying that part of the claim included the fact that the contract required the contractor to obtain all necessary permits from DOEE for dewatering, and Balfour's proposal addressed risk mitigation that included the use of an alternate method of collecting the discharge of groundwater into temporary tanks at the site. *Id*. The COFD determined that Balfour and its subcontractor used a method of dewatering the site similar to that discussed in its proposal. *Id*.

E. Subsurface Caissons and Foundation Elements (RCO Nos. 051R2, 052R2, 077R1)

139. Balfour contended that it was "entitled to $610,548 under the Differing Site Conditions and Changes clauses after encountering subsurface elements where none had been indicated and where GSA had specifically represented that any subsurface elements had been removed." Exhibit 86 at 5831. Those subsurface elements included "enormous concrete foundation elements, including shallow foundation footings, reinforced foundation walls and slabs, and extensive deep foundation belled caissons." *Id*. Additionally, Balfour contended that GSA had superior knowledge of the existence of those foundation elements. *Id*. Attached to its claim, Balfour included two drawings dated March 18, 1955, which showed the dimensions and locations of the bell caissons and other concrete structures. *See* Exhibits 2001, 2002. Those drawings, numbers 7-1 and 7-2, respectively, showed structural details for replacement of coal handling equipment at St. Elizabeths Hospital, which was a GSA PBS project. *Id*.

140. The COFD denied Balfour's claim for costs related to subsurface conditions. Exhibit 1 at 13. In response to Balfour's contention that GSA did not represent the existence of the subsurface conditions encountered, the COFD noted that the solicitation included a HSR on the power house, building 56/57, that described and showed the adjacent railroad tracks, railroad trestle, and coal handling structures. *Id*. The COFD noted that the subsurface conditions Balfour encountered did not materially differ from the conditions shown in the

contract nor did they "differ materially from those ordinarily encountered and generally consistent with having a coal handling yard." *Id*.

F. DOC A 100% Emergency Backup (RCO No. 069R1)

141. Balfour claimed $311,630 under the Changes clause. Exhibit 86 at 5832. Citing a "latent defect" in the bridging documents, Balfour stated the following:

> The Contract Narrative requires 100% of DOC A's 9 mega volt amp (MVA) normal power load to be backed up by generator power. . . . However, while [Balfour] was performing its post-award design validation, it discovered a latent error in the Bridging Documents: DOC A's power feeders could not, in fact, be connected to paralleling gear as intended for the provision of emergency backup generator power.

Id. at 5832-33. Balfour contended that GSA first directed that it proceed with an option consistent with the bridging documents, but GSA then directed Balfour to proceed under a second option with providing not only emergency power, but also normal backup power to the DOC A. *Id*. at 5833. Additionally, Balfour acknowledged that "Campus Electrical Load Table . . . require[d] 100% of DOC-A's 9 MVA normal power load to be backed up by generator power." *Id*. However, Balfour also argued that "by GSA's own specifications DOC A paralleling gear could not be connected directly to the power feeders." *Id*. "As a result, [Balfour] had to relocate the DOC A feeds and add additional feeds, conduit, cabling, and breakers." *Id*.

142. The COFD denied Balfour's claim for providing 100% backup power to the DOC A. Exhibit 1 at 15. Citing the bridging documents, the COFD noted the following:

> 30% Bridging design drawing E601 shows possible allotted space available for DOC, Pump House, West Addition and Center Building on the Normal Power switchgear. There is no indication or direct language from the bridging team on where and how to connect DOC. . . . Each bridging document pertaining to the DOC including the narrative pages 63, 66 and 30% bridging drawing E601 show varying levels of information to which if all were compared for coordination they achieve the same goal; 100% emergency power to the DOC. [Balfour] did not assess the bridging documents in its entirety to complete the design as Engineer of Record.

Id. The COFD also acknowledged "that the level of detail in the 30% bridging design documents will not have the level of detail to specifically tell [Balfour] how to get power to DOC A." *Id*.

G. Campus Loop and Expansion Tank Pressure Class Specifications (RCO No. 044R3)

143. Balfour claimed $289,723 for the cost of changes related to the campus loop pressure specifications. Exhibit 86 at 5833. In support of its claim, Balfour argued that "GSA's choices of heating and chilled water equipment in the Bridging Design Documents failed to account for the actual pressure of the campus loop." *Id*. Finally, Balfour argued that it had to install "additional heating and chilled water expansion tanks and upgrade boilers, hydronic pumps, and suction diffusers to higher pressure ratings in order for the new heating / cooling system to handle the campus loop pressures in accordance with required design standards." *Id*. However, Balfour also acknowledged that GSA had issued contract modifications that did not fully compensate it for the changed work. *Id*.

144. In denying Balfour's claim for costs related to the campus loop and tank pressure, the COFD found that Balfour's proposal recognized that each building would be "connected either through a heat exchanger or directly connected via a decoupling 'bridge.'" Exhibit 1 at 16, 125. The COFD determined that "[t]he design solution to evaluate the expansion tank pressure class and two preexisting systems (heat exchanger and direct connection) was and always has been a part of [the] base contract and does not account for a change." *Id*. at 16.

H. Legal and Consulting Fees (RCO No. 092R1)

145. In its claim, Balfour sought recovery for legal costs, $180,661.50, the cost of a scheduling consultant, $44,486, and its overhead and other administrative costs, which totaled $252,800. Exhibit 86 at 5834. Balfour contended that those costs were related to its RCOs and REAs. *Id*. The COFD denied that portion of Balfour's claim, finding that it was "too vague to determine reasonableness." Exhibit 1 at 16.

I. Winterization of Three Additional Cooling Towers (RCO No. 128)

146. Balfour claimed $155,241 for the cost of winterizing three cooling towers because the bridging documents required only winterization of one cooling tower. Exhibit 86 at 5834. Balfour conceded that winterizing two cooling towers was necessary for "N+1 redundancy." *Id*. It argued, however, that instead of requiring the winterization of only two cooling towers, GSA improperly required winterization of all five. *Id*.

147. The COFD denied Balfour's claim for winterizing three cooling towers and rejected Balfour's assertion that the RFP "explicitly" required winterizing only one cooling tower. Exhibit 1 at 16. Additionally, the COFD noted that "[c]ontract modification 07 was not issued . . . due to bridging design defects. [Balfour] could not procure cooling towers that met contract specifications at the capacity recommended by the 30% bridging design." *Id*. at 16-17. Finally, the COFD noted that Balfour's proposal for a fifth cooling tower included "associated piping, startup, and commissioning." *Id*. at 17. The COFD concluded that "GSA understands 'associated piping' to include winterization piping and all required piping to be consistent with '*industry standards*.'" *Id*.

J. Relocation of Condenser Water Pump VFD Conduits (RCO No. 060R1)

148. Balfour claimed that it was entitled to $128,025 under the Differing Site Conditions and Changes clauses when it encountered "previously undisclosed 1 ½ [inch] electrical conduits carrying 480 volt circuits in an existing concrete slab within the [CUP1] building." Exhibit 86 at 5836. Also, Balfour contended that the presence of those conduits "meant that these electrical feeders would need to be relocated in order . . . to be able to make the large condenser water supply and return piping penetrations required in the existing [CUP1] floor slab." *Id*. The COFD denied the claim because Balfour did not determine the location of conduits before completing its design. Exhibit 1 at 17.

K. Center Building Conduits within CUP2 (RCO No. 096)

149. Balfour claimed that it was entitled to $104,453 for costs largely incurred by Helix for the installation "of normal and emergency conduits for electrical feeders to the Center Building." Exhibit 86 at 5386. Those conduits, according to Balfour, were not part of the scope of the contract. *Id*. Additionally, Balfour argued that drawing E504 only showed required conduits within the utilities tunnel. *Id*.

150. The COFD denied Balfour's claim for center building conduits, finding that RFI 14 and drawing E504 described "the meeting point of the conduits in [CUP2] yet to be designed." Exhibit 1 at 17. Additionally, the COFD noted that drawing E504 showed "a clear continuation of conduit into CUP." *Id*. at 18. Finally, the COFD noted the following:

> There is no note stating cut/cap. The drawing clearly shows the conduit penetrating through the wall into [CUP2]. Beyond that, the Design Build team is responsible for coordinating the final location of these conduits with [CUP2] as the 30% bridging documents do not dictate the final location of switchgear.

> As stated before, the bridging package is not a fully coordinated design package. The intent was not to direct and coordinate the [Design Build] team where to install their conduits in CUP2. Drawing E504 was provided to help coordinate an existing structure where conduit needs to be installed.

Id.

L. ASI-020, ASI-022 CUP1 Structure Overpour (RCO No. 073R1)

151. Balfour claimed that it was entitled to $102,168 for costs incurred because the CUP1 concrete foundation walls were thicker than indicated in contract drawing S1.01. Exhibit 86 at 5839. According to Balfour, "[t]he walls were also constructed much thicker than indicated in GSA's as-built drawings." *Id*. As a result, Balfour contended that it "incurred additional costs for surveying; redesign of structural, architectural, and mechanical disciplines; demolition of the substantially thicker concrete foundation walls; the need to use different demolition equipment to adjust to the thicker concrete; additional reinforcement design, fabrication, and installation for the structural concrete, and re-coordination of all chilled water pumps; and the addition of piping offsets to accommodate this change." *Id*.

152. The COFD denied Balfour's claim for the structure overpour. Exhibit 1 at 18. Quoting section 0110000 of the specifications, the COFD noted that the bridging documents "may not exactly depict the existing 'as constructed conditions.'" *Id*. Additionally, the COFD determined that Balfour had incurred additional costs because, "[a]gainst good judgment and industry practice[, Balfour] completed its design without field verification." *Id*. at 19.

M. Provide Initial Fuel Oil Fill – Bridging Volume (RCO No. 115)

153. In its claim, Balfour contended that it was entitled to recover $86,995 for the cost of providing fuel oil for the CUP2 standby power equipment. Exhibit 86 at 5839. Balfour argued that "[t]he Contract does not require [Balfour] to provide fuel oil." However, Balfour acknowledged its agreement to provide fuel oil for the commissioning process and the transfer of fuel oil from the MUP generators to the CUP2. *Id*. Balfour disputed GSA's reading of the contract that required the tanks to be "ready for full use." *Id*. at 5839-40.

154. The COFD denied Balfour's claim for the cost of filling the tanks for the CUP2 generators in excess of the amount used for startup. Exhibit 1 at 19. The COFD noted that "[providing] empty fuel tanks . . . does not meet the base contract requirement to provide full use of the emergency power of [CUP2] and phase 2 buildings." *Id*. Additionally, the COFD noted that "[t]esting and start up is not full use." *Id*.

N. SOE Pile and Tieback Drilling Obstructions (RCO No. 059R1)

155. Balfour claimed entitlement to $63,993 for "the removal of unforeseen obstructions it encountered while installing support of excavation and soldier piles and tiebacks." Exhibit 86 at 5840. According to Balfour, "[n]ot only were the obstructions not included in the Bid Documents, GSA expressly assured [Balfour] that there were no such obstructions when [Balfour] asked." *Id*. Additionally, Balfour contended that it had asked GSA in RFI 48 "if there were any existing foundations and structures within the limits of the excavation." *Id*. at 5841. Citing GSA's reference to drawing AD103 in it reply to RFI 48, Balfour contended that it encountered obstructions that were not depicted in that drawing. *Id*. Finally, Balfour contended that GSA had superior knowledge "of the shallow foundation footings and existing underground structures well before commencement of the Project–but failed to disclose the information to [Balfour] until January 26, 2017, after award." *Id*.

156. The COFD denied Balfour's claim for SOE pile and tieback drilling obstructions because it asserted that GSA did not have superior knowledge of below grade structures. Exhibit 1 at 19. Although Balfour alluded to 1955 drawings[18] in support of its argument that GSA had superior knowledge, the COFD pointed out that those drawings "did not provide significant detail differing from the information [Balfour] had already . . . in its possession." *Id*. Finally, the COFD noted that the contract required Balfour to complete the design of the CUP2, and Balfour did not investigate the location of the project. *Id*.

O. Design Costs – Increased Fuel Oil Storage Capacity (RCO 010.1R1)

157. Balfour claimed $36,635 for design costs related to providing three, instead of two, fuel oil tanks for the generators. Exhibit 86 at 5843. In support of its claim, Balfour contended that "[t]he heavier custom fuel tanks involved additional hoisting labor, an upgrade to the fuel maintenance and polishing system, custom piping, venting, and sleeving work, as well as other associated adjustments." *Id*. The COFD denied Balfour's claim for design costs for the three fuel oil tanks, finding that the contract required the contractor to complete the design. Exhibit 1 at 20.

P. Repair of Brick Pilasters at Building 57 (RCO No. 063)

158. In its claim, Balfour sought $29,130 for repairs to brick pilasters at the power house under the Differing Site Conditions and Changes clauses of the contract. Exhibit 86 at 5844. Balfour contended that the only work required under the contract was the

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[18] Those drawings from 1955 were discussed in the Board's background section with the heading "Buried Concrete Caissons and Foundations."

underpinning of the power house, and repair or restoration to the power house was not part of the contract. *Id*. Citing Berkel's evaluation of the power house, Balfour contended that the power house had structural integrity issues and repairs were "required in order to maintain its structural integrity and eliminate a significant safety risk." *Id*. at 5845.

159. The COFD denied Balfour's claim for repairs to the brick pilasters. Exhibit 1 at 20. With regard to Balfour's contention that it encountered an unforeseen condition, the COFD noted that Balfour should have been aware of the condition of the power house from the historic structure report in the bridging documents and the site inspection opportunities before award. *Id*. With regard to the repairs, the COFD stated the following:

> GSA did not direct [Balfour] to do work beyond the base scope and does not owe compensation for such. It was only when [Balfour's] subcontractor struck building 57's pilaster and caused further damage, [Balfour] decided to repair all pilasters at its own expense."

Id.

Q. Design Costs – Telecom and Security Scope (RCO No. 056.1R1)

160. In its claim, Balfour sought entitlement to $13,825 for designing a telecom closet, "which included door security, phone and camera requirements, sizing requirements for the telecom room to be included in CUP-2, and device infrastructure." Exhibit 86 at 5845-46. While acknowledging that GSA issued modification PC18, which paid for the cost of the telecom closet, Balfour contended that it had it not been paid for the design. The COFD denied that portion of Balfour's claim, citing section 011000 of the specifications that required the contractor to complete the design. Exhibit 1 at 20-21.

R. Design Costs – Electrical Gear Size Increase (RCO No. 002.1)

161. Balfour claimed $13,159 for design costs related to the increase in electrical gear size. Exhibit 86 at 5846. Citing NEC and PBS P-100 requirements, Balfour contended that the bridging documents did not meet electrical gear size requirements. *Id*. Although GSA issued modification PC18, which added funds in the amount of $1,827,540 to the contract for the increased electrical gear size, Balfour still claimed the increased design costs. *Id.* The COFD denied Balfour's claim for design costs, finding that section 011000 of the specifications required the contractor to complete the design. Exhibit 1 at 21.

S. Design Costs – Automatic Transfer Scheme for Unit Substations (versus Kirk Keys) (RCO No. 038.1)

162. Finally, Balfour claimed entitlement to $1693 for design costs related to GSA's direction to use an automatic transfer scheme for unit substations instead of an interlocking system, Kirk Keys, which was specified in the design narrative. Exhibit 86 at 5846. While acknowledging that it was able to agree to construction costs for the change, Balfour alleged that GSA would not pay for the design costs related to the change. *Id*. at 5847. The COFD denied Balfour's claim for design costs, finding that section 011000 of the specifications required the contractor to complete the design. Exhibit 1 at 21-22.

V. Delay Analysis Reports

163. As part of its preparation for the hearing of this appeal, Balfour employed Delta to write a report on the extent to which GSA delayed Balfour's completion of the contract. Exhibit 2339. In response, GSA employed the Rhodes Group (Rhodes), which prepared a response to Delta's report. Exhibit 623. The authors of both reports testified at the hearing.

A. Delta's Report

164. Delta determined that completion of the contract was delayed 339 calendar days, which was slightly more than Balfour's claimed delay of 334 days. Exhibit 2339 at 3259. That delay consisted of two consecutive periods. *Id*. at 3259-60. The first period of delay, "Window 1," was a 171-day delay from March 18, 2017, Balfour's planned date to start excavation, to September 5, 2017, when Balfour actually commenced excavation. *Id*. at 3259, 3282. The second period of delay, "Window 2," was a 168-day "excavation prolongation delay" in addition to the planned 132-day baseline duration for excavation from September 5, 2017, to July 2, 2018. *Id*. at 3259, 3283. Delta followed a methodology of "Forensic Schedule Analysis." *Id*. at 3262. The expert's report elaborated on its methodology as follows:

> [R]etrospective, in that the analysis was performed after the delays had occurred,
>
> observational in that it used the actual Project schedules and contemporaneous documents to quantify the loss or gain of time along a logic path as opposed to inserting modeled delay activities,
>
> was based upon the Static Logic of the Project Schedule, which uses the network logic on the as built longest path, and

was Periodic, which measured delays in various time periods.

Id. at 3263.

165. With regard to Window 1, Delta determined that excavation had been delayed from March 18, 2017, which was Balfour's planned start date for excavation, to September 5, 2017, when Balfour began excavation. Exhibit 2339 at 3265-70. That period of delay was due to GSA's modification of the contract that made Balfour responsible for soil pre-characterization, instead of GSA. *Id*. Delta's report noted that Balfour's submission of its E&S permit application was no longer critical once GSA directed Balfour to perform soil pre-characterization, which lasted from May 1 to August 23, 2017. *Id*. at 3259-60. The author of Delta's report testified that he "determined that there was no critical path delay caused by the contractor." Transcript, Vol. 7 at 133. He contended that "it's very rare that you would have two activities caused by two different parties along the critical path at the same time." *Id*. He contended that "once they knew that pre-characterization was going to take some time, they slowed down this whole effort of getting the site work in place." *Id*. at 135. Finally, he described Balfour's contract performance as "pacing" because "it took longer than what was planned, but that was intentional." *Id*.

166. The second period of delay, Window 2, was 168 calendar days during the period from September 5, 2017, to July 2, 2018, less the 132 calendar day period that Balfour had scheduled for excavation. Exhibit 2339 at 3259. The disposal of contaminated soil required Balfour's subcontractor to travel greater distances for disposal. *Id*. at 3272. Delta's report noted that Balfour planned sixty-eight workdays for hauling soil for disposal at a rate of 1000 tons per day, but the greater distances required for hauling contaminated soil to disposal sites increased that number to ninety-three days. *Id*. Delta concluded that the inefficiency resulted in 107 days of delay. *Id*. at 3283.

167. Delta identified other periods of delay during the period from September 5, 2017, to July 2, 2018. Exhibit 2339 at 3270-84. Those included twenty days due to underground obstructions, thirteen days due to contaminated groundwater that flooded the subgrade, and twenty-eight days due to the ripple effects of those causes of delay. *Id*. With regard to the twenty days of delay assigned to underground obstructions, Delta cited subcontractor claims for a total of 157.25 hours over a period from September 7, 2017, to June 5, 2018. *Id*. at 3278. With regard to the thirteen-day delay related to contaminated groundwater, Delta noted that Balfour did not have a dewatering system until March 13, 2018; instead, Balfour had to pump and store water from the site in tanks for later disposal. *Id*. at 3279-80. Balfour's pumps failed to work on January 2, 2018, resulting in flooding at the subgrade for thirteen days, and work resumed after installation of a French drain system and crane mats. *Id*. at 3280. Finally, Delta determined that twenty-eight days of delay from

the ripple effect were due to the shifting of excavation work to the fall and winter. *Id*. at 3281.

B. Rhodes' Report

168. GSA submitted Rhodes' delay analysis in response to Delta's report.[19] Exhibit 623 at 616463-64. Rhodes noted that while the contract required Balfour to achieve substantial completion within 540 days and contract completion sixty days later, on August 20, 2018, actual completion did not occur until February 1, 2020, which increased the as-built duration of the contract from 601 to 1131 calendar days.[20] *Id*. at 616472. In general, the report noted the following:

> The Rhodes Group determined that Delta's methodology and resulting conclusions, which is ultimately a total time approach, are flawed and unsubstantiated. In addition, Delta's delay assessment and assignment of responsibility for delay is based on an incomplete review of the Project records and is therefore further unsupported.
>
> Notwithstanding the flaws in Delta's analysis discussed above, The Rhodes Group determined that no more than 148 [calendar days (CDs)] are potentially compensable in Window 1, and Delta failed to substantiate that any of the 168 CDs of alleged delay in Window 2 are compensable.

Id. at 616464.

169. With regard to Window 1, Rhodes did not dispute that Balfour submitted its E&S permit application on February 24, 2017, but disputed Delta's finding that the application ceased to be critical to the start of excavation, which Balfour intended to start on March 18, 2017. Exhibit 623 at 616490. Rhodes noted that "Delta failed to recognize the fact that the E&S permit was required to be obtained prior to starting excavation on 18 March 2017 and [Balfour] did not even learn about the need to perform the Precharacterization Program until 21 March 2017 – after the excavation was supposed to start." *Id*. Rhodes noted that before the start of excavation, Balfour had to install the construction entrance and access road, relocate electrical conduits, strip the site, and remove a small retaining wall, but

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[19] GSA's September 4, 2018, letter set forth AFG's delay analysis. Exhibit 62.

[20] Rhodes did not include the additional contract extension periods under modifications PS32 and PS35 for the purpose of computing as-built duration. Exhibit 623 at 616472 n.54.

those activities were not completed until April 9, 2017. *Id*. at 616491. Rhodes concluded the following:

> Absent any other delay, [Balfour] would not have been ready to begin excavation until 10 April 2017 – 23 days later than the planned start of excavation. [Balfour] as the design-builder was responsible for securing the E&S permit. Due to its own failure to do so, the late E&S permit was – at a minimum – a concurrent delay with the Precharacterization Program because the late permit would have independently delayed the critical path of the Project.
>
> As a result, Delta's allegation that the GSA is responsible for all 171 CDs of delay because of the Precharacterization Program scope and that the delay is compensable, is unsubstantiated.
>
> As a result of the foregoing analysis of Window 1, with [Balfour] responsible for at least 23 CDs of concurrent delay, the GSA is potentially liable for not more than 148 days of compensable delay during Delta's Window 1 as a result of a change to [Balfour's] scope requiring it to perform the Precharacterization Program prior to being able to start excavation.

Id. at 616491-92.

170. At the hearing, the author of the Rhodes report noted that the activities that should have been completed before the start of excavation were not completed until August 4, 2017. GSA's witness stated the following:

> And if I can just . . . point . . . to the activities that were to be completed on March 17th, . . . which was install construction entrance and access road, relocate electrical conduits, strip site, and remove small retaining wall. When we look at where those or how those activities actually progressed . . . we see that those activities did not complete until August 4th of 2017. Again, this is ongoing at the same time as pre-characterization. But that August 4th versus March 17th, that's approximately 140 days later than planned in Balfour's baseline schedule.

Transcript, Vol. 6 at 267. The author of the Rhodes report also testified that Delta had not accounted for concurrent delays, and Delta had not established pacing as an "intentional and contemporaneous" decision to pace progress against a delay. *Id*. at 270.

171. With regard to Window 2, which was 168 days of "prolongation" delay, Rhodes determined that Delta had failed to show compensable critical path delay. Exhibit 623 at 616492-93. Balfour's baseline schedule showed a duration of 132 days to complete excavation of tiers one through six and the subgrade, SOE piles, installation of caissons, lagging to subgrade, and other related work for each tier. *Id*. at 616493, 616496.[21] Balfour's planned duration of excavation was thirty-six days. *Id*. Installation of SOE piles had a start date of March 18, 2017, and a finish date of March 28, 2017, which was a duration of ten days. *Id*. Installation of caissons had a start date of April 18, 2017, and a finish date of June 16, 2017, which was a duration of fifty-nine days. *Id*. The total duration of excavation was ninety-five days. *Id*. Installation of SOE piles had a start date of September 5, 2017, and a finish date of September 27, 2017, which was a duration of twenty-two days. *Id*. The installation of caissons and drilling for bracket piles at the power house, building 56/57, began on January 15, 2018, and finished on April 19, 2018, for a duration of eighty-eight days. *Id*. Between March 23 and July 2, 2018, Balfour spent seventy-six days excavating from the third tier to the subgrade. *Id*.

172. Rhodes concluded that Delta could only show that excavation was prolonged by fifty-nine days, which was the difference between the thirty-six planned days for excavation and the actual duration of ninety-five days. Exhibit 623 at 616497. Additionally, Rhodes noted that only the excavation activities at the fourth and fifth tiers were prolonged by more than two days. *Id*.

173. With regard to Delta's finding of 107 days of prolonged duration due to hauling contaminated soil, Rhodes noted Delta's "failure to relate haul time to [Balfour's] critical path schedule activities or prolonged performance." Exhibit 623 at 616498. Rhodes also found that although Balfour had shown ninety-three "haul days" for removing contaminated soil, that was only twenty-five more days than the originally planned sixty-eight days. *Id*. at 616499. Additionally, Rhodes noted that Balfour's RCOs regarding the hauling of contaminated soil only claimed potential delay for fifty of the ninety-three hauling days. *Id*. at 616502, 616527-28. However, Rhodes concluded that Delta had failed to show any compensable delay related to the hauling of contaminated soil. *Id*.

174. With regard to Delta's finding of thirteen days of delay because of contaminated groundwater, Rhodes noted that the claimed delay began when Balfour's pumps at the site failed on January 2, 2018. Exhibit 623 at 616502. Rhodes noted that Delta's analysis "failed to address how the failure of [Balfour's] pumps impacted the critical path; failed to address how [Balfour] used the 'extensive knowledge' and risk mitigations it

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[21] The same information is found in Balfour's January 25, 2018, schedule submission. Exhibit 330 at 0224405-06.

communicated to the GSA; and failed to show how the alternate method [Balfour] employed was unanticipated." *Id*. at 616506.

175. Rhodes' analysis addressed Delta's finding that Balfour was delayed twenty days because of "unanticipated underground structures." Exhibit 623 at 616506. Balfour's subcontractor for SOE piles and tiebacks, Berkel, claimed "shifts lost due to weather/holidays/breakdown = 20 days."[22] *Id*. at 616509 n.205. However, Rhodes noted that "Delta['s] . . . quantification for unforeseen underground obstructions overlaps in time with its Contaminated Soils hauling analysis." *Id*. at 616509 n.206.

176. Finally, Rhodes addressed Delta's "ripple effect" delay of twenty-eight days, which was related to the above-discussed factors of contaminated soil, contaminated groundwater, and underground obstructions with the addition of a performance shift of work to a different time of year. Exhibit 623 at 616512. Rhodes noted, however, that Balfour's proposal before contract award included a schedule that showed it planned to start excavation on December 26, 2016, with a finish date of April 25, 2017, which was a period of 123 days. *Id*. at 616512-13. Rhodes concluded that Delta failed "to substantiate its assertion of 28 CDs of compensable delay for 'ripple effect,' which results in a total time approach regarding the 168 CDs of extended time it took [Balfour] to complete the excavation." *Id*. at 616514.

VI. Balfour's Hauling Record for Contaminated Soil

177. The Board makes additional findings regarding Balfour's hauling records between September 12, 2017, and July 19, 2018. Balfour's hauling record showed the removal of more than 1000 tons of contaminated soil on sixteen of the ninety-three hauling days, the hauling of 600 to 1000 tons of contaminated soil on twenty-eight of those days, and varying amounts from as little as eighteen tons on the remaining days. Exhibit 2340 at 5764-66. Balfour's hauling record does not show a clear pattern of inefficiency, such as an inability to haul 1000 tons per day or a consistent reduction in hauling to 600 tons per day.

178. Balfour's hauling record for contaminated soil did not account for days in which its was or was not engaged in excavation. Twenty of those hauling days occurred during caisson installation. Exhibits 412 at 616061, 2340 at 5764-65. Thirty of those hauling days coincided with days that Balfour excavated one or more of the tiers or the subgrade. Exhibits 412 at 616061-62, 2340 at 5764-66.

179. Balfour's hauling records show thirty-nine hauling days between March 26 and July 2, 2018. Exhibit 2340 at 5765. On eight of those days, Balfour hauled more than 1000

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[22] Berkel's claim is part of RCO 059R1, SOE pile and tieback obstructions.

tons of soil, and on seventeen of those days, Balfour hauled between 600 and 1000 tons of soil. *Id.* Balfour removed a total of 25,422 tons of soil during that period, which was the difference between the cumulative tonnages on March 26, 2018 (26,337 tons), and July 2, 2018 (51,759 tons). *Id*.

VII. Audit of Balfour's Claim

180. GSA's Office of Inspector General (OIG) audited Balfour's claim, and the OIG issued a written report, which was dated February 11, 2021. Exhibit 2121. The audit adjusted Balfour's claim to $7,907,367. *Id*. at 3199. In light of the audit's findings, Balfour reduced its total claim to $12,709,729. Exhibit 2345 at 17.

Discussion

I. Standard of Review and Balfour's Nineteen Claims

Appellant seeks recovery of various costs related to the CUP2 project. The Board decides this appeal in accordance with its jurisdiction under the Contract Disputes Act (CDA), 41 U.S.C. §§ 7101–7109 (2018). "'While [the Board] can make inferences from th[e] evidence and either accept or deny the probative value of documents, statements or other extrinsic evidence, in order for us to find for a party, that party's evidence must establish,' by a preponderance of the evidence, 'that it is entitled to relief.'" *1-A Construction & Fire, LLP v. Department of Agriculture*, CBCA 2693, 15-1 BCA ¶ 35,913, at 175,551 (quoting *Schoenfeld Associates, Inc.*, VABCA 2104, *et al.*, 87-1 BCA ¶ 19,648, at 99,472). Balfour, consequently, has the burden of proof in establishing entitlement with regard to each of its claims. This appeal presents a voluminous record and a variety of government contract law issues, and the Board addresses each section of Balfour's claim, A through S, in turn, below.

A. Contaminated Soil in Excess of Contract Allowance (RCO No.062R2)

Balfour's claim sought compensable delay for 334 days, which it has revised to 339 days, because GSA modified the contract to require Balfour to conduct soil pre-characterization, which delayed the start of excavation, and because of the presence of contaminated soil, which prolonged excavation because of increased hauling distance for disposal. Finding 131. A contractor's recovery of the costs of delay requires the following:

> The contractor has the burden of proving the fundamental facts of liability and damages de novo. *See Servidone Construction Corp. v. United States*, 931 F.2d 860, 861 (Fed. Cir. 1999). ("To receive an equitable adjustment from the

> Government, a contractor must show three necessary elements–liability, causation, and resultant injury."). *See also William F. Klingensmith, Inc. v. United States*, 731 F.2d 805, 809 (Fed. Cir. 1984); *Blinderman Construction Co. v. United States*, 695 F.2d 552, 559 (Fed. Cir. 1982). This means that when the claim being asserted by the contractor is based upon alleged government-caused delay, the contractor has the burden of proving the extent of the delay, that the delay was proximately caused by government action, and that the delay harmed the contractor.

Wilner v. United States, 24 F.3d 1397, 1401 (Fed. Cir. 1994). "[A] contractor cannot recover 'where the delays are "concurrent or intertwined" and the contractor has not met its burden of separating its delays from those chargeable to the Government.'" *Essex Electro Engineers, Inc. v. Danzig*, 224 F.3d 1283, 1292 (Fed. Cir. 2000) (quoting *Blinderman Construction Co.*, 695 F.2d at 559). "To obtain an equitable adjustment for unabsorbed home office overhead as compensation for being on standby, [a contractor] must initially show a 'government-caused delay of uncertain duration,' that 'the delay extended the original time for performance' . . . and that 'the contractor [was] on standby and unable to take on other work during the delay period." *CTA I, LLC v. Department of Veterans Affairs*, CBCA 5826, et al., 22-1 BCA ¶ 38,083, at 184,951 (quoting *Nicon, Inc. v. United States*, 331 F.3d 878, 883 (Fed. Cir. 2003)).

The contract required that Balfour use a CPM schedule. Finding 52. The Board recognizes the following:

> Specifically, then, "to prevail on its claims for the additional costs incurred because of the late completion of a fixed-price government construction contract, 'the contractor must show that the government's actions affected activities on the critical path.'" *George Sollitt Construction Co. v. United States*, 64 Fed. Cl. 229, 240 (2005) (quoting *Kinetic Builder's Inc. v. Peters*, 226 F.3d 1307, 1317 (Fed. Cir. 2000)). Typically, "[i]f work on the critical path [i]s delayed, then the completion date of the project [i]s delayed." *Affiliated Western, Inc. v. Department of Veterans Affairs*, CBCA 4078, 17-1 BCA ¶ 36,808, at 179,401 (quoting *Mega Construction* [*v. United States*], 29 Fed. Cl. [396] at 425 [(1993)]).
>
> . . . .
>
> To satisfy its burden, the contractor must establish what the critical path of the project actually was and then "demonstrate how excusable delays, by affecting activities on the contract's 'critical path,' actually impacted the contractor's

> ability to finish the contract on time." *1-A Construction & Fire, LLP v. Department of Agriculture*, CBCA 2693, 15-1 BCA ¶ 35,913, at 175,557, *appeal dismissed*, No. 15-1623 (Fed. Cir. Jan. 28, 2016).

Yates-Desbuild Joint Venture v. Department of State, CBCA 3350, et al., 17-1 BCA ¶ 36,870, at 179,685, *motion for reconsideration denied*, 18-1 BCA ¶ 36,959, *motion for full Board consideration denied*, 18-1 BCA ¶ 36,968. Balfour's delay analysis report by Delta divided its delay claim, 339 days, into two periods of delay, which were Window 1 and Window 2. Finding 164. The Board addresses, in turn, those periods of delay.

The Board notes that both GSA and Balfour offered lengthy written delay analyses and testimony, which offered contrasting views, and the Board considered those analyses along with an earlier delay analysis, which was cited in the COFD. Faced with similar conflicting views, the Board has recognized the following:

> In deciding a case involving conflicting expert witness testimony, we are not obligated to adopt any particular conclusion or opinion reached by an expert witness. *Reflectone, Inc.*, ASBCA 42363, 98-2 BCA ¶ 29,869, at 147,829 (citing *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320,1325 (Fed. Cir. 1987)). Indeed, we are free to reject expert testimony which we find intrinsically unpersuasive. *Id*. (citing *Granite Construction Co. v. United States*, 962 F.2d 998, 1006 (Fed. Cir. 1992)); *Gulf Contracting, Inc.*, ASBCA 30195, et al., 90-1 BCA ¶ 22,393, at 112,521 (Board not bound by expert testimony and may substitute its own common sense)). And we are justified in choosing one expert opinion over another unless the evidence is inherently improbable or discredited by incontrovertible evidence. *Id*.; *Cochran Construction Co.*, ASBCA 40294, 90-3 BCA ¶ 23,239, *aff'd*, 937 F.2d 624 (Fed. Cir. 1991) (table).

All Star Metals, LLC v. Department of Transportation, CBCA 53, 09-1 BCA ¶ 34,039, at 168,355-56 (2008). The Board, accordingly, considers the delay analyses offered in this appeal, as well as the record as a whole, to determine whether there is any period of compensable delay.

The Board finds Delta's delay analysis of the start of excavation, Window 1, to be flawed because it does not account for the fact that Balfour was not ready to commence excavation on March 18, 2017. Balfour's proposal showed that it understood that various activities that included permits and other work at the site would precede excavation. Finding 45. GSA rejected Balfour's initial schedule, which was dated February 20, 2017, for inconsistencies and lack of detail, and Balfour did not submit a revised schedule until

January 23, 2018, which was almost one year later, and that schedule established dates for starting and finishing the various activities related to sitework and excavation. Findings 56, 57, 61. Balfour's schedule required approval of its E&S permit, activity P1115, by February 24, 2017, which preceded any work at the site, but Balfour did not obtain approval until May 3, 2017. Findings 62, 65. Balfour's revised schedule required completion of certain activities—A6090 (construction entrance and access road), A6050 (strip site, remove small retaining wall, and asphalt sidewalk), and A6150 (relocate site lighting electrical conduits)—by March 16, 2017. Finding 62. Sitework, which included tiebacks, excavation, and caissons, was to start on March 18, 2017, and finish on July 26, 2017, for a 133-day duration. Findings 62, 63. Balfour's June 29, 2018, schedule showed that it completed A6090 on June 29, 2017, A6150 on July 17, 2017, and A6050 on August 4, 2017. Finding 65. Additionally, even when Balfour had hired a company to conduct soil pre-characterization, it had only conducted an "upper half" study as of July 27, 2017. Finding 60.

AFG's analysis of Balfour's schedule, which GSA referenced in its September 4, 2018, letter to Balfour, noted that completion of SOE piles preceded the start of excavation. Finding 68. The critical activity, SB315000-170, "Support of Excavation and Underpinning–Order & Fabricate," was completed on September 5, 2017, which was 180 days later than Balfour had planned. *Id.* The slippage of that activity was the result of an "additional 196 cd for activity C010 Bid and Award Support of Excavation/Underpinning Contract and the additional 98 cd for activity SB315000-100 Support of Excavation and Underpinning activity – prepare and submit submittals." *Id.* Finally, AFG noted, as of September 4, 2018, that 1139 of the activities, which was 99.8% of all activities, on Balfour's schedule were "critical and near critical," but no more than twenty percent of activities should be critical or near critical. *Id.*

Although Balfour claims compensable delay for Window 1, Balfour's delay analysis only addresses GSA's direction to perform soil pre-characterization as the cause of delay and ignores contractor-caused delays related to other activities. Delta's delay analysis for Window 1 dismissed the effect of any concurrent delay by Balfour in spite of evidence to the contrary. Additionally, Delta attempts to explain away concurrent delay as "pacing," which was slowing down contract performance during soil pre-characterization. Finding 165. While the Board does not discount the impact of GSA directing Balfour to perform a soil pre-characterization, Balfour has not addressed its concurrent delay of numerous activities, which delayed the start of excavation at the site.

Delta described Window 2, a 168-day period of delay during the period from September 5, 2017, to July 2, 2018, as a "prolongation" delay. Findings 166, 171. That period of delay included 107 days of delay due to the removal and hauling of contaminated

soil from the site, twenty days of delay due to underground obstructions, thirteen days of delay due to contaminated groundwater, and twenty-eight days of delay due to a "ripple effect." Finding 167.

The Board finds that the record partially supports Balfour's claim for 107 days of compensable delay related to the removal of contaminated soil. Balfour's revised January 25, 2018, schedule showed a 133-day duration, from March 18 to July 26, 2017, for sitework with separate activities for excavation of six tiers and the subgrade with caisson installation, an eighty-day activity, occurring between the second and third tier excavations. Finding 63. Balfour excavated the first and second tiers between September 29 and November 20, 2017, and caisson installation was scheduled between excavation of the second and third tiers. *Id*. Balfour's schedule showed completion of caisson design on March 6, 2017, which was before excavation, but it did not complete caisson design until January 8, 2018. Findings 63, 66.

Balfour began caisson installation on January 15, 2018, and finished on March 8, 2018. Finding 66. Excavation of the third tier started on March 28, 2018. Finding 171. Balfour excavated the fourth, fifth, and sixth tiers and the subgrade from April 12 to July 2, 2018. *Id*. Although Balfour argues that removal of contaminated soil and other site conditions prolonged excavation, its late start with caisson installation impacted excavation from the end of November of 2017 to the end of March of 2018. Balfour's baseline schedule showed that the excavation activities for all tiers and the subgrade totaled thirty-six days, but Rhodes, GSA's delay expert, found that the actual duration of excavation was ninety-five days, for a difference of fifty-nine days. Finding 172. Most of the additional fifty-nine days for excavation were related to excavation at the fourth tier (thirty days) and fifth tier (twenty-one days). *Id*. Rhodes, however, does not adequately explain why those fifty-nine additional days would not be compensable. Most of the excavation, from the third tier to subgrade, took place after any period of concurrent delay. The Board finds that Balfour is entitled to fifty-nine days of compensable delay out of the claimed 107-day period of delay in excavation related to the removal of contaminated soil.

The Board does not find merit in the remainder of Balfour's claimed prolongation delay set forth in Delta's analysis. Delta's finding of delay related to underground obstructions has no merit as it relates to SOE piles and tiebacks, which preceded excavation. Finding 175. Additionally, Delta's finding of delay related to groundwater is without merit because the claimed period of delay, which started on January 2, 2018, occurred while waiting to start caisson installation.[23] Findings 171, 174. Finally, Balfour's claim of delay

[23] As discussed elsewhere, the Board does not find differing site conditions related to underground obstructions or groundwater.

due to a "ripple effect" is not supported by the record because Balfour's proposal showed that it planned excavation during the winter, and, as discussed above, Balfour contributed to its delay starting work at the site. Finding 45.

Balfour argues that GSA had superior knowledge about soil contamination at the site. Appellant's Post-Hearing Brief at 101. The Board has recognized the following:

> The doctrine of superior knowledge is generally applied to situations where (1) a contractor undertakes to perform without vital knowledge of a fact that affects performance costs or duration, (2) the government was aware the contractor had no knowledge of and had no reason to obtain such information, (3) any contract specification supplied misled the contractor or did not put it on notice to inquire, and (4) the government failed to provide the relevant information.

Yates-Desbuild Joint Venture, 17-1 BCA at 179,688 (quoting *Scott Timber v. United States*, 692 F.3d 1365, 1373 (quoting *Hercules, Inc. v. United States*, 24 F.3d 188, 196 (Fed. Cir. 1994), *aff'd*, 516 U.S. 417 (1996)). "The superior knowledge doctrine only requires disclosures of 'the "vital" and "essential" information' that a contractor needs, as it develops its proposal or bid, to understand the performance or cost risks that it would be undertaking if awarded the contract in question." *Id*. (quoting *CAE USA, Inc. v. Department of Homeland Security*, CBCA 4776, 16-1 BCA ¶ 36,377, at 177,352).

Balfour argues that GSA had superior knowledge about soil contamination, but that contention is not relevant to the issue of compensable delay. As discussed elsewhere, GSA modified the contract to extend the contract completion date and compensate Balfour for increased costs related to removing contaminated soil, and only the issue of compensable delay remained in dispute. Finding 69. The Board does not find it necessary to discuss legal arguments that have no relationship to the issue of compensable delay. The doctrine of superior knowledge does not apply in this appeal because GSA has already compensated Balfour for the extra costs of removing greater than anticipated quantities of contaminated soil from the site, and the only claim that Balfour reserved was compensable delay. *Id*.

Balfour also contends that the contract incorporated the Variations in Estimated Quantities (VEQ) clause, FAR 52.211-18, which provides for an equitable adjustment when "the actual quantity of the unit-priced item varies more than 15 percent above or below an estimated quantity." Appellant's Post-Hearing Brief at 103. However, Balfour's reliance on the VEQ clause in this appeal amounts to choosing "the wrong battlefield." *C. H. Leavell & Co.*, ENG BCA 3492, 75-2 BCA ¶ 11,596, at 55,364. The VEQ clause does not apply when "the cost of doing the work greatly differs from the stated unit price because of changes

ordered by the Government." *Id*. (citing *Morrison-Knudsen Co. v. United States*, 184 Ct. Cl. 661, 688-89 (1968)). Balfour has already been compensated for the costs of removing contaminated soil, and again, the only claim it reserved was compensable delay. Finding 69.

Accordingly, Balfour is entitled to fifty-nine days of compensable delay.

B. IFC and ASI Docs – Owner Costs (RCO No. 076)

Balfour contends that it incurred "$2,682,926 for additional design and work scope associated with the required redesign for CUP-2" that arose "out of deficiencies in the Bridging Design Documents provided by GSA." Appellant's Post-Hearing Brief at 109. Rather than being able to proceed from a thirty-percent design, Balfour contends that it had to go back to an earlier point and "redesign the structural foundation, layout revisions, [and] revise sized equipment prescribed in the Bridging Design Documents." *Id*. at 110. GSA contends that the contract contained a performance, as opposed to design, specification, and the contract language, which was a thirty-percent design-build contract, placed the responsibilities and risks of completing the design on Balfour. Respondent's Post-Hearing Brief at 87-88.

For over a century, the following precedent has applied:

> Where one agrees to do, for a fixed sum, a thing possible to be performed, he will not be excused or become entitled to additional compensation, because unforeseen difficulties are encountered. . . . But if the contractor is bound to build according to plans and specifications prepared by the owner, the contractor will not be responsible for the consequences of defects in the plans and specifications. . . . This responsibility of the owner is not overcome by the usual clauses requiring builders to visit the site, to check the plans, and to inform themselves of the requirements of the work.

United States v. Spearin, 248 U.S. 132, 136 (1918). The Court of Claims subsequently recognized "that the government implicitly warrants in a construction contract that if the contractor complies with the specifications furnished he will be able to complete the project within the contemplated period; and if the specifications are so faulty as to prevent or unreasonably delay completion of the contract performance, the contractor may recover his actual damages for breach of the implied warranty." *Wunderlich Contracting Co. v. United States*, 351 F.2d 956, 964 (Ct. Cl. 1965). However, the contractor has the burden to show that "the cumulative effect or extent of these errors was either unreasonable or abnormal." *Id*. Proof that the Government has breached an implied warranty requires showing "(1) that a valid warranty existed, (2) the warranty was breached, and (3) the [contractor] suffered

harm caused by the breach." *Lakeshore Engineering Services, Inc. v. United States*, 748 F.3d 1341, 1349 (Fed. Cir. 2014) (citing *Hercules, Inc. v. United States*, 24 F.3d at 197).

The distinction between a design specification, which is subject to a warranty, and a performance specification is as follows:

> A design specification binds the contractor to build according to specific instructions dictated by the owner. *See* [*White v. Edsall Construction Co.*, 296 F.3d 1081, 1084 (Fed. Cir. 2002)]. In contrast to a performance specification, which merely lays out the "objective without specifying the method of obtaining the objective," a design specification lays out "the actual method of performance." *Id*. "Design specifications . . . describe in precise detail the materials to be employed and the manner in which the work is to be performed. The contractor has no discretion to deviate from the specifications, but is 'required to follow them as one would a road map.'" *Blake Const. Co., Inc. v. United States*, 987 F.2d 743, 745 (Fed. Cir. 1993) (quoting *J.L. Simmons Co. v. United States*, 188 Ct. Cl. 684, 412 F.2d 1360, 1362 (1969)).

Caddell Construction Co. v. United States, 78 Fed. Cl. 406, 411 (2007). "Detailed design specifications contain an implied warranty that if they are followed, an acceptable result will be produced." *Broce Construction Co. v. Department of Transportation*, DOTCAB 4464, 07-1 BCA ¶ 33,457, at 165,867 (2006) (citing *Stuyvesant Dredging Co. v. United States*, 834 F.2d 1576, 1582 (Fed. Cir. 1987) (citing *Spearin*)). "No warranty applies to performance specifications." *Id*. (citing *Fru-Con Construction Corp. v. United States*, 42 Fed. Cl. 94, 96 (1998)). "Contracts may have both design and performance characteristics." *Id*. at 165,868 (citing *Blake Construction Co.*, 987 F.2d at 746). This Board has held that "[w]hether a specification is a design or performance specification depends upon the obligations imposed by the specification, not upon the label given to it." *Acquest Government Holdings U.S. Geological, LLC v. General Services Administration*, CBCA 439, 07-1 BCA ¶ 33,576, at 166,338 (citing *Blake Construction Co.*, 987 F.2d at 746).

In this appeal, the Board considers to what extent a thirty-percent design, which was the basis for Balfour's proposal, was design or performance. The Armed Services Board of Contract Appeals (ASBCA) addressed a similar question in *M.A. Mortenson Co.*, ASBCA 39978, 93-3 BCA ¶ 26,189. In *Mortenson*, the Army Corps of Engineers issued a solicitation for the construction of a medical clinic with concept drawings that represented thirty-five percent of the complete working drawings. *Id*. at 130,364. The solicitation included plans and calculations for the basement and concrete walls, and the contractor based its estimate as to the quantity of concrete and structural steel on that information. *Id*. at 130,365. The ASBCA held that the contractor reasonably interpreted the solicitation for the

purpose of estimating the quantity of concrete and steel, and the contractor was entitled to the cost of the increased quantity of those materials required. *Id*. at 130,367-68. In *Fluor Intercontinental, Inc. v. Department of State*, CBCA 490, et al., 12-1 BCA ¶ 34,989, the Board distinguished the ASBCA's decision in *Mortenson* as follows:

> In *Mortenson*, the board determined that the risk had not shifted to the contractor because the Government had made certain warranties. Specifically, the Government prepared and furnished as part of the RFP "concept submittal" drawings, stipulated to be 35 percent complete, for the construction of a medical clinic. The drawings indicated specific sizes and quantities for structural concrete and reinforcing steel. The contract expressly stated the bidders could rely upon the requirements used in the drawings for guidance in pricing their bids.

Id. at 171,961.

The Board does not find that the bridging documents contained a warranty for the design of the mat slab at a particular thickness, and the Board's reasoning in *Fluor*, as opposed to the ASBCA's decision in *Mortenson*, is controlling in this case. Balfour contends that the solicitation called for a mat slab with a thickness of eighteen inches, but, ultimately, it had to increase the thickness to forty-three inches. Appellant's Post-Hearing Brief at 32. Balfour ignores a controlling fact that precludes finding any warranty of the mat slab thickness. Contract drawing SB101 directed the contractor to match the existing foundation of the CUP1. Finding 13. In addition to drawing SB101, Silman provided calculations that indicated a difference in the load on the CUP1, 3000 psf, and the load on the CUP2, 4500 psf. *Id*. Balfour's minutes of the January 23, 2017, meeting with GSA noted the disparity between drawing SB101, which called for an eighteen-inch foundation, and Silman's calculations, which called for a twenty-four-inch foundation. Finding 71. The fact that Balfour only identified such a discrepancy during the validation process after award does not prove that the bridging documents warranted a mat slab thickness of eighteen inches or any other dimension. To the contrary, the bridging documents raised a question about the mat slab thickness that should have caused Balfour to raise the issue before contract award. The Board, consequently, does not find that Balfour is entitled to recover any costs related to designing the mat slab under such circumstances.

Balfour also claims additional costs related to meeting Tier 4 and DOEE requirements for airflow for the 3.5 MW generators. Finding 133. During the solicitation, GSA responded to an RFI regarding compliance with Tier 2 or Tier 4 requirements, and GSA advised potential offerors that "Tier 4 must be . . . assumed as the basis for bids." Finding 38. The project narrative advised offerors that Tier 4 compliance would be required of generators

"greater than 900 kw." Finding 11. Balfour incorrectly tries to attribute the Tier 4 requirements to the change in generator size or some other deficiency in the bridging documents. Findings 74, 133. However, the Tier 4 requirements applied to the 3.0 MW generators originally specified, which were in excess of 900 kw, as well as the 3.5 MW generators. Finding 11. The contract required Balfour to comply with DOEE requirements. Finding 14. Balfour, consequently, is not entitled to any increased costs in its completed design of the CUP2 that were related to complying with either Tier 4 or other DOEE requirements.

C. Temporary Utilities to Center Building (RCO No. 047R2)

Balfour claims $2,152,491 for the cost of providing temporary utilities to the center building by modifying the MUP because the CUP2 project was behind schedule. Finding 135. Additionally, Balfour contends that it "never intended to provide these services through a temporary solution that required upgrading the MUP." Appellant's Post-Hearing Brief at 127. Balfour argues that it was "purposely and intentionally misled" by GSA to believe that it would be compensated for providing temporary utilities. *Id*. at 132. GSA contends that the contract required Balfour to provide utilities to the center building by September 2017, which was then changed after contract award to December 2017, and finally, April 2018. Respondent's Post-Hearing Brief at 39-40. Heating and cooling to the center building were necessary for completion of work and preparation for building occupancy. *Id*.

At issue, consequently, is whether modification of the MUP to provide temporary utilities was within the terms of the contract. The terms of a contract "may be properly held to limit their application to what should be regarded as having been fairly and reasonably within the contemplation of the parties when the contract was entered into." *Freund v. United States*, 260 U.S. 60, 63 (1922). More recently, the Court of Claims recognized the following:

> The basic standard, as the court has put it is, whether the modified job "was essentially the same work as the parties bargained for when the contract was awarded." . . . Our opinions have cautioned that the problem "is a matter of degree varying from one contract to another" and can be resolved only "by considering the totality of the change and this requires recourse to its magnitude as well as its quality.". . . "There is no exact formula . . . . Each case must be analyzed on its own circumstances, giving just consideration to the magnitude and quality of the changes ordered and their cumulative effect upon the project as a whole."

Air-A-Plane Corp. v. United States, 408 F.2d 1030, 1033 (Ct. Cl. 1969) (citations omitted).

The Board has recognized that "a contractor with a fixed price contract assumes the risk of unexpected costs not attributable to the Government." *Matrix Business Solutions, Inc. v. Department of Homeland Security*, CBCA 3438, 15-1 BCA ¶ 35,844, at 175,283 (2014) (quoting *IAP World Services, Inc. v. Department of the Treasury*, CBCA 2633, 12-2 BCA ¶ 35,119, at 173,445). However, the Board will look to whether the contractor incurred costs for work that "materially alter[ed] the nature of the bargain into which plaintiff had entered or cause[d] it to perform a different contract." *Pernix Serka Joint Venture v. Department of State*, CBCA 5683, 20-1 BCA ¶ 37,589, at 182,523 (quoting *Aragona Construction Co. v. United States*, 165 Ct. Cl. 382, 391 (1964)), *aff'd*, 849 F. App'x 928 (Fed. Cir. 2021). The Court of Appeals for the Federal Circuit has recognized that a contractor could not be held responsible for performing work that required it to "deduce from imputed knowledge, obtainable only outside the contract documents . . . the government's intent." *Centex Construction Co. v. United States*, 864 F.2d 149 (Fed. Cir. 1988) (table) (1988 WL 120256 at *1), *rev'g Centex Construction Co.*, ASBCA 33279, 88-2 BCA ¶ 20,541 (reversed board's finding that contractor was responsible for providing temporary lighting to areas used for moving explosives during evening hours).

Balfour had an obligation under the contract to provide utilities to the center building by a certain date, but the Board does not find that the contract obligated Balfour to modify the MUP and lease additional equipment in order to meet that requirement. The bridging documents stated, "Ideally, the CUP2 would be operational not only in time for occupancy of these buildings, but in time to condition these building sites for interior construction." Finding 3. Amendments 9 and 10 to the solicitation clarified the contractor's obligation to provide temporary utilities to the center building by advising that such service was to be provided by September of 2017. Findings 41, 42. GSA extended that deadline until April of 2018. Finding 136. It was only when GSA and Balfour became aware that the CUP2 project was not ready for supplying utilities to the center building that discussions turned to an alternative, such as using the MUP for that purpose. Finding 76. The record does not support a finding that Balfour considered such an alternative during preparation of its proposal. Finding 77. Only hindsight would suggest that modifying the MUP to supply temporary utilities in the event of a delay was a reasonable contract requirement that Balfour should have considered in preparing its proposal.

Accordingly, the Board finds Balfour entitled to the cost of modifying the MUP to provide temporary utilities to the center building.

D. Contaminated Groundwater (RCO No. 068R1)

Balfour claims $1,411,519 for the costs of removing contaminated groundwater from the site because the bridging documents provided inaccurate information about water quality, which amounted to a type one differing site condition (DSC). Appellant's Post-Hearing Brief at 139. Additionally, Balfour contends that removal of contaminated groundwater required special pumping and storage equipment. Finding 137. GSA argues that Balfour did not obtain the necessary permits for dewatering the site, and Balfour's proposal showed that it understood the potential need for special equipment to remove contaminated groundwater. Finding 138.

The contract incorporated by reference the Differing Site Conditions clause, FAR 52.236-2. Finding 53. That clause defined a DSC as one of the following two types: "(1) [s]ubsurface or latent physical conditions at the site which differ materially from those indicated in [the] contract; or (2) [u]nknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided in the contract." FAR 52.236-2(a). The Board's discussion, accordingly, addresses both DSC types. The following is well established:

> To establish an equitable adjustment to contract price based on a Type 1 DSC, a contractor must prove by a preponderance of the evidence:
>
> > [1] the conditions indicated in the contract differ materially from those actually encountered during performance; [2] the conditions actually encountered were reasonably unforeseeable based on all information available to the contractor at the time of bidding; [3] the contractor reasonably relied upon its interpretation of the contract and contract-related documents; and [4] the contractor was damaged as a result of the material variation between expected and encountered conditions.
>
> *Comtrol, Inc. v. United States*, 294 F.3d 1357, 1362 (Fed. Cir. 2002); *see also Stuyvesant Dredging Co. v. United States*, 834 F.2d 1576, 1581 (Fed. Cir. 1987). "While a contractor need not demonstrate that its interpretation of the contract is the only reasonable one, it does bear the burden of showing that its construction is at least a reasonable reading." *P.J. Maffei Building Wrecking Corp. v. United States*, 732 F.2d 913, 917 (Fed. Cir. 1984) (emphasis in original).

United States Army Corps of Engineers v. John C. Grimberg Co., 817 F. App'x 960, 962-63 (Fed. Cir. 2020). A type two DSC requires that an "appellant must demonstrate by a preponderance of the evidence that it encountered an 'unknown physical condition at the site which differ[ed] materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.'" *Tucci & Sons v. Department of Transportation*, CBCA 4779, 17-1 BCA ¶ 36,599, at 178,297 (quoting FAR 52.236-2). "A contractor's burden in a Type II case is heavy because, unlike a Type I case, in which the contract provides the basis of comparison, 'there is no clear written point of reference.'" *Id*. (quoting *Servidone Construction Co. v. United States*, 19 Cl. Ct. 346, 360 (1990), *aff'd*, 931 F.2d 860 (Fed. Cir. 1991)).

Balfour has not demonstrated the existence of either a type one or type two DSC. The bridging documents included HAI's geotechnical report, which provided findings from a single observation well that found no compounds that exceeded EPA MCL criteria, but the report also qualified its findings and noted that potential contamination "may not be fully understood until construction." Finding 21. On the basis of that language, Balfour asserts that it assumed that it could pump groundwater into the storm sewer. Finding 82. The Board finds such an assumption to have been misplaced, as the bridging documents gave no such assurance as to the type of permit for disposal of groundwater that DOEE or any other government agency would issue to a contractor.

Balfour contends that it planned to pump groundwater "into the municipal storm sewer system (MS4), after obtaining the appropriate permits for doing so, with no additional cost." Appellant's Post-Hearing Brief at 136. The Board has summarized the contractor's responsibility for obtaining necessary permits as follows:

> FAR 52.236-7, titled, "Permits and Responsibilities" (P&R), . . . very broadly places upon the contractor the obligation and responsibility for obtaining all necessary permits and licenses: "The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits." 48 CFR 52.236-7. Taken on its own, the clause clearly and unambiguously assigns to the contractor responsibility for and risk associated with obtaining permits from host or local governments. *Blaze Construction, Inc*., IBCA 3651-96, 98-2 BCA ¶ 30,035, at 148,618. It is consistent with the general rule that absent fault or negligence by the Government or some other contractual provision creating a right to the contrary, the Government is not liable or responsible for damages resulting from the acts of third parties. *Oman-Fischbach International (JV) v. Pirie*, 276 F.3d 1380, 1385 (Fed. Cir. 2002).

Yates-Desbuild Joint Venture, 17-1 BCA at 179,692. The contract incorporated by reference the P&R clause, and it specifically provided that the contractor was responsible for obtaining permits from DOEE and any other authority that had jurisdiction over the work site. Findings 14, 53. The record shows that Balfour started the process of requesting a permit from DOEE on June 14, 2017, but DOEE did not provide approval for MS4 discharge until February 16, 2018. Findings 80, 83. Doing so, however, required installing thirteen test wells, which were needed to fully characterize the groundwater, but Balfour had only installed two wells as of October 10, 2017. Finding 81. Balfour represented in its claim that the groundwater at the site was "too clean" for disposal into the sanitary water system for treatment and "too dirty" for discharge into the MS4 system. Finding 137. To the extent that Balfour incurred unanticipated costs removing groundwater from the site, those costs were due to the lengthy process Balfour encountered obtaining its permit from DOEE. The difficulty that Balfour had with the DOEE approval process was not the fault of GSA.

Balfour claims that GSA had superior knowledge of GOI's 2007 dioxin remedial investigation and believed "that it would encounter groundwater that met EPA drinking standards." Appellant's Post-Hearing Brief at 141. As discussed above, the superior knowledge doctrine applies to only those circumstances where the Government is obligated to disclose vital or essential information necessary to the development of a bid or proposal. *Yates-Desbuild Joint Venture*, 17-1 BCA at 179,688. The facts in this appeal do not support Balfour's allegation of GSA's superior knowledge with regard to the DOEE permitting process for the removal of groundwater. The bridging documents, which included HAI's geotechnical report, noted the soil at the site included "coal fragments" and "ash" from the previous operation of the power house. Finding 12. Balfour's proposal included a list of risks that noted the possibility of multiple reviews by DOEE and the use of alternate methods of collecting groundwater in tanks for discharge offsite. Finding 48. HAI's findings were equivocal as to the water quality, given the findings of a single observation well. The fact that Balfour now claims that it assumed from HAI's report that the groundwater at the site met EPA drinking requirements and could be discharged into the sanitary sewer system was an unreasonable interpretation of the bridging documents that is not even supported by Balfour's proposal. The Board finds no entitlement to Balfour's claimed increased costs for removal of groundwater from the site.

E. Subsurface Caissons and Foundation Elements (RCO Nos. 051R2, 052R2, 077R1)

Balfour claims $610,548 for increased costs related to subsurface caissons and other foundation elements. Finding 139. Those subsurface obstructions did not include those structures identified on drawing AD103, but, instead, included "unknown structures," nineteen deep-belled caissons (approximately twenty feet tall and two-and-a-half feet in

diameter), and a structure identified as a "coal crusher pit." Appellant's Post-Hearing Brief at 146. Additionally, Balfour contends that it only learned after award of the contract of the existence of GSA drawings, which were dated from 1955, that showed the size, shape, and location of the belled caissons and coal crusher pit. *Id*. at 147-48. GSA argues that the bridging documents provided references to subsurface structures that included drawings AD103 and CUPEX-101, WJE's report, and RFI 108. Respondent's Post-Hearing Brief at 49-51. Additionally, GSA noted that it did not discover the 1955 drawing showing the location of bell caissons until after contract award. *Id*. at 52.

Balfour has not shown the existence of a type one DSC related to underground foundations, structures, and the bell caissons that it encountered during excavation. As discussed previously, proof of a type one DSC requires meeting four criteria that, generally, require proof of conditions that materially differed from those shown in the contract. *John C. Grimberg Co.*, 817 F. App'x at 962. The area adjacent to the power house, which included the CUP2 project, was previously used for the delivery of coal by train, and WJE's report noted that railroad tracks, a rail trestle, and coal storage bins had been built during the early twentieth century. Finding 5. In 1955, concrete walls and foundations were built to support the coal bunkers. *Id*. Division 31 of the specifications stated that a contractor "shall expect to encounter remnants of tunnels, slabs, wall, utilities and other buried structures during pre-trenching, general excavation, and installation of temporary excavation support systems." Finding 18. That part of the specifications further stated that the contractor will be required to remove such below-grade structures, slabs, and walls. *Id*. While WJE noted that a portion of those structures had been removed, HAI's geotechnical report noted that "[a] former utility tunnel, utilities, and concrete slabs and structures once part of a system of coal receiving and storage structures are assumed to still be in-place with and at the bottom of the Fill deposit and will require excavation and removal to reach the [CUP2] foundation subgrade." Findings 5, 12. The various parts of the bridging documents, including the specifications, history, and geotechnical reports, were sufficient to inform prospective contractors as to the likelihood of encountering various types of concrete structures such as walls and foundations during excavation.

Balfour relies on drawing AD103 as showing the extent of the concrete structures that it would encounter, but such reliance does not prove a type one DSC. Drawing AD103 was a demolition plan, which had photos with captions that made reference to "concealed slabs and foundations" to be demolished. Finding 37. RFI 48 responded to a question as to whether drawing AD103 showed the extent of below-grade structures, and GSA responded that the drawing showed "the foundations below grade within the limits of excavation." *Id*. GSA's response to RFI 108 referenced drawing CUPEX-101, which was from the CUP1 project, and it indicated that the concrete and steel structure that remained after that project were likely railroad tracks. *Id*. When considered in its totality, the bridging documents and

GSA's responses to relevant RFIs provided a prospective contractor with sufficient information as to the likely existence of the below-grade concrete structures. Moreover, the Board does not find that the bridging documents suggested that all such structures and foundations had been removed previously.

Additionally, Balfour contends that GSA had superior knowledge of underground obstructions, which include the "bell caissons," that were depicted in a 1955 drawing. As discussed above, proof of superior knowledge requires showing four factors that, generally, require proof that the Government knowingly withheld information unknown to the contractor. *Yates-Desbuild Joint Venture*, 17-1 BCA at 179,688. GSA has provided credible and unrefuted testimony that the existence of the drawing was not known until after contract award, and there is no evidence that GSA knowingly withheld information from Balfour when it prepared its proposal. Finding 85. As discussed above, the bridging documents advised that a prospective contractor should "assume" that remnants of those structures were still present. While Balfour appears to suggest that "bell caissons" are a differing site condition, they are concrete foundations, which were referenced in the bridging documents. The Board finds no entitlement for Balfour's claimed costs related to subsurface caissons and foundations.

F. DOC A 100% Emergency Backup (RCO No. 069R1)

Balfour claims $311,630 for the cost of providing 100% emergency backup power to the DOC A because it "understood . . . 'emergency power' to include providing emergency power to provide life safety loads, not normal power." Appellant's Post-Hearing Brief at 154-55. Additionally, Balfour contended that the bridging documents had a latent defect because emergency power was not defined as normal power. *Id*. at 158. GSA argues that the bridging documents required that emergency power to the DOC A be the same as normal power. Respondent's Post-Hearing Brief at 55.

At issue is whether Balfour reasonably interpreted the bridging documents requirement for emergency backup power as only life safety loads and not normal power. The Board has recognized the following:

> Our examination starts with the "plain language of the contract." *Columbia Construction Co. v. General Services Administration*, CBCA 3258, 15-1 BCA ¶ 35,856. Contract language must be read in accordance with its express terms, *C. Sanchez & Sons, Inc. v. United States*, 6 F.3d 1539, 1543 (Fed. Cir. 1993), and should be given the plain meaning that a reasonably intelligent person, acquainted with the circumstances, would derive from that language. *Portillo v. General Services Administration*, CBCA 2516, 12-1 BCA ¶ 34,925.

> "The contract must be read as a whole and in light of its purpose. Reasonable meaning must be given all parts of the [contract] so as not to render any portion meaningless, or to interpret any provision as to create a conflict with other provisions of the contract." *Columbia Construction Co*.

Wu & Associates, Inc. v. General Services Administration, CBCA 6760, 21-1 BCA ¶ 37,965, at 184,383. To establish that a contract provision was ambiguous, the Board must find that not only is a provision subject to two interpretations, but also that both interpretations fall within a "zone of reasonableness." *See Gottfried Contracting, LLC v. General Services Administration*, CBCA 3443, 14-1 BCA ¶ 35,513, at 174,076 (citing *Metric Constructors, Inc. v. National Aeronautics & Space Administration*, 169 F.3d 747, 751 (Fed. Cir. 1999)). A latent ambiguity is "neither glaring nor substantial nor obvious," while a patent ambiguity is "facially inconsistent . . . [and] place[s] a reasonable bidder on notice and prompt[s] it to rectify the inconsistency by inquiry." *Omniplex World Services Corp. v. Department of Homeland Security*, CBCA 5971, 19-1 BCA ¶ 37,209, at 181,149 (citing *K-Con, Inc. v. Secretary of the Army*, 908 F.3d 719, 722 (Fed. Cir. 2018); *Triax Pacific, Inc. v. West*, 130 F.3d 1469, 1475 (Fed. Cir. 1997)).

The Board finds no ambiguity as to the requirement under the contract that Balfour provide 100% backup emergency power to the DOC A. The bridging documents set forth a requirement for emergency power, and the campus electrical load table, which was part of the bridging documents, specified that emergency power to the DOC A was the same as normal power. Finding 10. The Board finds no other reasonable reading of the bridging documents; any other reading would render the electrical load table meaningless.

Balfour argues that "[e]ven if the Bridging Documents were clear to include normal power, which it was not clear, the Bridging Documents were defective because the generators would not be directly connected as depicted in Drawing E601." Appellant's Post-Hearing Reply Brief at 81. In its claim, Balfour contended that the "DOC A paralleling gear could not be connected to the power feeders," and it had to "relocate DOC A feeds and add additional feeds, conduit, cabling, and breakers." Finding 141. The COFD stated that the electrical drawing that Balfour referenced, E601, was only a thirty-percent design, and it did not show the level of detail necessary to bring power to the DOC A. Finding 142. The bridging documents were a performance as opposed to design specification, and Balfour was responsible for completing the thirty-percent design set forth in the bridging documents. Findings 1, 2. Balfour has only established that it had to make additions to a partial design. However, even if Balfour is right that drawing E601 was incorrect, Balfour has only shown the existence of a patent ambiguity that would have required inquiry. Accordingly, Balfour is not entitled to recover its claimed costs for providing 100% emergency backup power to the DOC A.

G. Campus Loop and Expansion Tank Pressure Class Specifications (RCO No. 044R3)

Balfour contends that it is entitled to recover $269,090 for the increased costs of additional expansion tanks and other equipment in the campus loop because of increased pressure from elevation changes in the CUP2. Appellant's Post-Hearing Brief at 160. The COFD denied Balfour's claim, citing the need to evaluate the requirements for the expansion tanks. Finding 144. However, GSA agrees that the size of the expansion tanks specified would not have been adequate. Respondent's Post-Hearing Brief at 57.

The Board finds that Balfour is entitled to the increased cost of providing additional expansion tanks and related equipment in order to meet the pressure requirements for the campus loop. As discussed above, even in a design-build type of contract, the Board must necessarily look to whether the Government has warranted a specification or whether the risk of complying with a specification has shifted to the contractor. *Fluor Intercontinental, Inc.*, 12-1 BCA at 171,961. The bridging documents specified two expansion tanks in an equipment schedule on drawing M607. Finding 90. Where the contract specified the sizes of the expansion tanks, a potential contractor would have been justified in relying on that requirement.

Balfour, accordingly, is entitled to recover the cost of providing additional expansion tanks and related equipment.

H. Legal and Consulting Fees (RCO No. 092R1)

Balfour seeks recovery of $250,909 for legal and consultant costs that are related to the preparation of RCOs and REAs. Appellant's Post-Hearing Brief at 167. GSA denied that part of Balfour's claim as too vague. Finding 145.

FAR 31.205-33(b) provides that "[c]osts of professional and consultant services are allowable . . . when reasonable in relation to the services rendered and when not contingent upon recovery of the costs from the Government." Invoices or billings from such consultants shall "includ[e] sufficient detail as to the time expended and nature of the actual services provided." FAR 31.205-33(f)(2). The Board has recognized the following:

> "[C]onsultant costs" and legal fees "incurred by a contractor in connection with negotiations relating to the additional compensation to which the contractor was entitled by reason of government-caused delay of the job [are] allowable as contract administration costs, even [if] the negotiations eventually failed." *Tip Top Construction, Inc. v. Donohoe*, 695 F.3d 1276, 1281 (Fed.

> Cir. 2012) (citing *Bill Strong Enterprises, Inc.* [*v. Shannon*], 49 F.3d 1541, 1550 (Fed. Cir. 1995), *overruled in part on other grounds by Reflectone, Inc. v. Dalton*, 60 F.3d 1572, 1579 & n.10 (Fed. Cir. 1995) (en banc)). Such costs remain recoverable so long as the contractor is incurring them "for the genuine purpose of materially furthering the negotiation process." *Bill Strong Enterprises*, 49 F.3d at 1550; *see Foxy Construction, LLC v. Department of Agriculture*, CBCA 5632, 17-1 BCA ¶ 36,687, at 178,628 ("the contractor is entitled to pursue negotiation before submitting a formal claim and to treat the costs that it incurs in that negotiation process as contract administration costs"). This typically includes REA preparation costs if the REA is not submitted as a "claim" upon which the contractor is seeking a decision. *See Moshe Safdie & Associates, Inc. v. General Services Administration*, CBCA 1849, et al., 14-1 BCA ¶ 35,564, at 174,304. Once the contractor's primary purpose becomes an effort "to promote the prosecution of a CDA claim against the Government," any subsequently incurred costs are considered claim prosecution costs, which are not recoverable." *Bill Strong Enterprises*, 49 F.3d at 1550 (citing FAR 31.205-33). Classifying a cost as either a contract administration cost or a cost incidental to claim prosecution requires the Board to "examine the objective reason why the contractor incurred the cost." *Id*.

Yates-Desbuild Joint Venture, 17-1 BCA at 179,710.

Balfour claims legal fees in the amount of $231,500, but its invoices offer no detail as to the services rendered. Finding 94. Recovery of such fees is precluded where a contractor provides "no details" and the purpose of such fees is only "vaguely described." *Amec Foster Wheeler Environment & Infrastructure, Inc. v. Department of the Interior*, CBCA 5168, et al., 19-1 BCA ¶ 37,474, at 182,041. Additionally, a contractor's claim for legal fees must be supported by evidence that such fees were related to preparation for negotiation with the Government. *Yates-Desbuild Joint Venture*, 17-1 BCA at 179,710-11. Although Balfour and GSA participated in a mediation on February 26 and 27, 2019, the record does not show the extent to which any such fees were related to mediation or other negotiations with GSA. Accordingly, the Board finds no entitlement with regard to Balfour's claim for legal fees.

The Board reaches a different result with regard to Balfour's claim for Delta's consultant fees in the amount of $44,485. Delta charged those fees for preparation of a request for a time extension. Finding 94. Balfour, consequently, is entitled to recover the amount of such fees that were for the purpose of "furthering the negotiation process." *Bill Strong Enterprises, Inc.*, 49 F.3d at 1550. Accordingly, Balfour is entitled to recover that portion of its claim for Delta's consultant fees.

I. Winterization of Three Additional Cooling Towers (RCO No. 128)

Balfour claims $155,241 for the cost of winterizing three cooling towers. Finding 146. Additionally, Balfour argues that the bridging documents only required heat tracing for one cooling tower, and "[t]he lack of heat tracing on all cooling towers was not an obvious discrepancy." Appellant's Post-Hearing Brief at 43. GSA contends that "[t]he lack of heat tracing on all cooling towers was an obvious discrepancy in light of the District of Columbia's climate, which regularly drops to freezing temperatures during the winter months." Respondent's Post-Hearing Reply Brief at 55. The COFD concluded that Balfour was required to follow industry standards. Finding 147.

The Board finds that Balfour reasonably interpreted the bridging documents as requiring heat tracing for one cooling tower. As discussed above, the parties' conflicting interpretations of a contract provision must fall within a "zone of reasonableness." *See Gottfried Contracting, LLC*, 14-1 BCA at 174,076. The bridging documents included drawings MI104 and MI114, which specified heat tracing for only one cooling tower. Findings 31-33. The specifications only described heat tracing without specifying how many cooling towers would require heat tracing. Finding 27. The bridging documents did reference ASHRAE 90-1 in the context of quality control, and Balfour's cooling tower manufacturer, Marley, made reference to that same standard in its technical guidance. That guidance, however, only stated that a cooling tower required heat during operation in cold weather in lieu of draining the system. Findings 28, 100. Balfour provided heat tracing on one additional cooling tower based upon an "N+1" redundancy. Finding 99. Drawing MI114, apparently, only indicated such a redundancy factor for one additional chiller and cooling tower. Finding 31.

GSA's correspondence suggested that Balfour's supplier, Marley, recommended that all cooling towers have heat tracing for operation all year, and GSA contends in its brief that Balfour should have been aware of the periodic freezing weather conditions in Washington, D.C. Finding 100. Such an argument is of no avail because a manufacturer's recommendations do not become a contract requirement where a reasonable reading of the specifications states a different requirement. *See T.F. Powers Construction Co.*, ASBCA 38031, et al., 90-1 BCA ¶ 22,483, at 112,844-45 (1989) (contract requirement for use of roof sealant prevailed over manufacturer's recommendation against use of sealant), *aff'd*, 918 F.2d 187 (Fed. Cir. 1990) (table). The fact remains that the bridging documents did not require that all cooling towers have heat tracing. If GSA had wanted a greater redundancy factor for heat tracing, the bridging documents should have so stated. Even if the Board were to find that heat tracing for all cooling towers was a good idea in light of local weather conditions and the manufacturer's recommendations, the Board does not have the authority to read contrary language in the specifications out of the contract in order to reach that result.

See Hol-Gar Manufacturing Corp. v. United States, 351 F.2d 972, 979 (Ct. Cl. 1965) (court would not accept an interpretation of a contract "which leaves a portion of it useless, inexplicable, inoperative, void, insignificant, meaningless or superfluous"). Accordingly, Balfour is entitled to the cost of winterizing three additional cooling towers.

J. Relocation of Condenser Water Pump VFD Conduits (RCO No. 060R1)

Balfour claims $128,025 for the cost of relocating an existing electrical conduit within the CUP1 in order to accommodate the condenser water supply and piping. Finding 148. Additionally, Balfour contends that the conduit was a type one DSC. Appellant's Post-Hearing Brief at 175. GSA contends that the contract places the responsibility on Balfour for verifying the existence of utilities before commencing work. Respondent's Post-Hearing Brief at 110.

The Board does not find that the conduit Balfour encountered in the CUP1 was a type one DSC. As discussed above, a type one DSC requires a showing of reasonable reliance upon the contract and that the condition encountered was unforeseeable. *John C. Grimberg Co.*, 817 F. App'x at 962-63. In general, the bridging documents placed responsibility on the contractor for completing the design and "may not exactly depict the existing 'as constructed conditions.'" Findings 2, 14. The contractor also had an affirmative duty to ensure that utility services to the West Campus would not be interrupted. Finding 14. Additionally, the bridging documents advised that "[t]he existence and location of underground and other utilities and construction indicated as existing are not guaranteed." Finding 17. The bridging documents also required that the contractor verify the existence of utility locations. *Id*. Balfour contends that it *reasonably* relied upon the bridging documents, but the existence of conduit in the CUP1 was foreseeable given the guidance set forth in the bridging documents. The Board, accordingly, finds no entitlement to Balfour's claim related to relocating the condenser water pump conduits.

K. Center Building Conduits within CUP2 (RCO No. 096)

Balfour claims $104,453 for the cost of providing normal and emergency conduits for electrical feeders to the center building. Finding 149. Those costs included "install[ing] conduit past the entrance of CUP-2 by an additional 50 feet and to terminate at the electrical gear." Appellant's Post-Hearing Brief at 46. The COFD denied that portion of Balfour's claim, and the CO noted that drawing E504 showed conduit penetrating the wall of the CUP2. Finding 150. GSA also points out that "[i]f the intent was for the conduit to terminate at the entrance of CUP2 it would have said 'at the entrance to CUP2.'" Respondent's Post-Hearing Reply Brief at 10.

The Board finds that Balfour unreasonably interpreted the bridging documents as to its responsibility for connecting conduit to the CUP2 to the center building. As discussed above, the parties' conflicting interpretations of a contract provision must fall within a "zone of reasonableness." *See Gottfried Contracting, LLC*, 14-1 BCA at 174,076. Balfour's electrical subcontractor, apparently, believed that the connection of conduit outside the CUP2 wall to the center building would be performed by another contractor. Finding 106. The Board does not find that drawing E504, RFI 14, or any other part of the bridging documents suggests that such work would be performed by another contractor. GSA's witness identified the termination points at which Balfour was to connect conduit. Finding 106. Additionally, drawing E504 stated that the contractor was to "provide" conduit for IT, controls, and normal and emergency power. Finding 26. Section 014200 of the contract defined "provide" to mean "furnish, install, and commission . . . complete in place and ready for full use." Finding 16. Such language in the contract required Balfour, not another contractor, to complete the required conduit connections between the CUP2 and the center building. The Board, accordingly, denies Balfour's claim for center building conduit.

L. ASI-020, ASI-022 (CUP1) Structure Overpour (RCO No. 073R1)

Balfour claims $102,168 for additional costs because the CUP1 walls were thicker than shown in drawing S1.10. Finding 151. Furthermore, Balfour contends that the foundation wall was a type one DSC because it had been overpoured by as much as twelve to twenty-four inches in some areas. Appellant's Post-Hearing Brief at 47, 184, 186. GSA contends that Balfour has not shown that its reliance on drawing S1.01 was reasonable. Respondent's Post-Hearing Brief at 112-13.

Balfour erroneously argues that the CUP1 wall was a type one DSC, but the issue in this case is whether drawing S1.10, which was a foundation plan for the CUP1 in the bridging documents, contained any representation as to whether the exterior of the east wall of the CUP1 was an even surface that was ready to be used as the interior west wall of the CUP2. As discussed elsewhere, a type one DSC requires a showing of reasonable reliance upon the contract and that the condition encountered was unforeseeable. *John C. Grimberg Co.*, 817 F. App'x at 962-63. The Department of Transportation Contract Appeals Board (DOTCAB) stated the following:

> Whether a drawing is defective is a matter of contract interpretation. *Hol-Gar Manufacturing Corp*., 169 Cl. Ct. 384 (1965). . . . Appellant must show that its interpretation of [the drawing] was reasonable. *Hope General Painting Co., Inc.*, DOTCAB No. 77-12, 78-1 BCA ¶ 13,118 (1978). Interpretive problems that are patent or obvious are generally excluded from the zone of reasonableness. *Brezina Construction Co. v. United States*, 196 Ct. Cl. 29, 449

> F.2d 372 (1971). Strained or contrived interpretations are also excluded. *Bishop Engineering Company, Inc. v. United States*, 180 Ct. Cl. 411 (1967). It is not essential, however, that appellant demonstrate its interpretation was the only justifiable or reasonable one. Appellant need prove only that its interpretation was a reasonable alternative. *Peter Kiewit Sons' Co. v. United States*, 109 Ct. Cl. 390 (1947).

Meredith Construction Co., DOT CAB 1548, 85-1 BCA ¶ 17,895, at 89,610.

Balfour has only shown that certain areas of the exterior wall of the CUP1 required additional work, but such work is not evidence of a type one DSC or any other basis for entitlement for its claimed costs. The bridging documents indicated that the west side of the CUP2 would be the existing CUP1 wall. Finding 13. Drawing S1.01 was only a foundation plan for the CUP1. *Id*. Balfour has not supported its contention that drawing S1.01 depicted the condition of the surface of the west wall of the CUP1 or that it had any reasonable basis for concluding that the CUP1 wall would not require any extra work to eliminate variations in the thickness of the wall at various locations, which were, at most, one foot or one-and-a-half feet. Finding 108. Section 011000 of the specifications advised potential contractors that existing conditions might need to be "cut, drilled, removed, temporarily removed, or removed and replaced, as necessary." Finding 14. As noted in the COFD, Balfour did not verify dimensions of that wall before completing its design, and Balfour has not refuted that finding. Finding 152. The bridging documents made no such representation regarding the evenness of the exterior CUP1 west wall. Nothing in the record suggests that Balfour had any reasonable expectations about the condition of that wall or that the conditions encountered were contrary to those represented in the contract. Balfour is not entitled to its claimed costs related to the CUP1 structure overpour.

M. Provide Initial Fuel Oil Fill – Bridging Volume (RCO No. 102)

Balfour claims $86,995 for providing 31,747 gallons of fuel oil to completely fill the three fuel tanks for the emergency generators in the CUP2. Findings 112, 153. Although Balfour acknowledges the requirement for providing fuel tanks for the generators, it contends that the bridging documents contained no requirement for fuel beyond that necessary for testing and commissioning. Appellant's Post-Hearing Brief at 193. GSA argues that the contract defined the word "provide" as ready for full use, and Balfour "was required to provide completely full fuel tanks in order to be ready for use." Respondent's Post-Hearing Brief at 62. Conversely, it argues, tanks that are not full are not ready for use. *Id*. at 63.

As discussed above, the question of Balfour's entitlement turns on whether it reasonably interpreted the bridging documents as requiring only a sufficient amount of fuel

oil for testing and commissioning. The VABCA addressed a similar issue in *Charles Construction Co.*, VABCA 1337, 80-1 BCA ¶ 14,227 (1979), in which the contract specified that the contractor provide fuel oil tanks, but the contract did not specify that the contractor fill those tanks. The VABCA found that the Government's interpretation of the contract was reasonable in that the contract specified a "complete and operating system." *Id*. at 70,091. However, the VABCA found the contractor's interpretation was also within the zone of reasonableness because the contract did not specify that the contractor supply an initial quantity of fuel. *Id*. at 70,092.

In this case, Balfour offers an interpretation of the bridging documents that is within the zone of reasonableness, and GSA's direction to provide the additional fuel was a constructive change to the contract. The Board has recognized the following:

> "The government constructively changes a contact to which it is a party when 'a contractor performs work beyond the contract requirements without a formal order or due to the fault of the Government.'" *Agility Public Warehousing Co. KSCP v. Mattis*, 852 F.3d 1370, 1385 (Fed. Cir. 2017) (quoting *International Data Products Corp. v. United States*, 492 F.3d 1317, 1325 (Fed. Cir. 2007)). "A constructive change entails two base components, the change component and the order or fault component." *Miller Elevator Co. v. United States*, 30 Fed. Cl. 662, 678, *appeal dismissed*, 36 F.3d 1111 (Fed. Cir. 1994).
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> In evaluating the change component, we must first determine what the contract actually required and then determine whether the work actually performed was "in addition to or different from that required." *Miller Elevator*, 30 Fed. Cl. at 678.

VSE Corp. v. Department of Justice, CBCA 5116, 18-1 BCA ¶ 36,928, at 179,910-11 (2017). The bridging documents did not specifically state that the contractor was to provide completely full fuel tanks, and Balfour had no way in which to reasonably estimate the amount of fuel oil that it would have to provide beyond that needed for testing and commissioning. Additionally, the amount of fuel required to fill the tanks changed after award. GSA only realized after awarding the contract that the PBS P-100 required the fuel tanks to have a capacity for seventy-two, instead of twenty-four, hours of operation, and GSA modified the contract to increase fuel tank capacity with three, instead of two, fuel oil tanks. Findings 115, 117. Also, Balfour could not have known before award the quantity of fuel at the MUP, which was transferred to the CUP2. Finding 110. Balfour's claim is

only for the cost of providing 31,747 gallons of fuel to three tanks with a capacity of 79,887 gallons. Finding 110. GSA argues that the contract did not call for providing empty tanks. Finding 154. Such an argument ignores the fact that Balfour had no apparent intention of providing empty tanks, and Balfour provided a substantial quantity of fuel under the contract.

Balfour, accordingly, is entitled to the cost of providing 31,747 gallons of fuel.

N. SOE Pile and Tieback Drilling Obstructions (RCO No. 059R1)

Balfour claims $63,993 for the cost of removing obstructions while installing "support of excavation and soldier piles and tiebacks," which is a separate type one DSC claim related to underground obstructions. Finding 155. Additionally, Balfour argues that it encountered unforeseen "subsurface concrete and steel" that was not shown on drawing AD103. Appellant's Post-Hearing Brief at 196-97. In response, GSA argues that the bridging documents contained historical and geotechnical reports regarding the power house that described the railroad tracks, trestle, and coal handling facilities that had existed in that area and that the remnants of those structures should be assumed to be present. Respondent's Post-Hearing Brief at 64.

The Board finds no merit in Balfour's claim of a type one DSC in connection with its work on SOE piles and tieback drilling near the power house. As discussed above, a reasonable reading of the bridging documents would necessarily lead to the conclusion that a contractor could encounter underground concrete and steel remnants of the railroad and coal handling facility adjacent to the power house. Additionally, nothing in drawing AD103 can reasonably be read as giving a prospective contractor assurance that no such obstructions would be encountered. The Board finds that Balfour is not entitled to its claimed costs related to SOE pile and tieback drilling obstructions.

O. Design Costs – Increased Fuel Oil Storage Capacity (RCO 010.1R1)

Balfour claims $36,635 for the design costs related to providing three, instead of two, fuel oil tanks. Finding 157. The change in the number of fuel tanks was necessitated by the requirements of the PBS P-100, which required that the tanks supply enough fuel to run the generators for seventy-two hours. Finding 115. Because of that change, Balfour had to design three custom 26,629 gallon tanks. Appellant's Post-Hearing Brief at 201. Although GSA agreed to pay for the increased construction costs, Balfour argues that GSA denied payment for the redesign costs of the fuel tanks. *Id*. GSA contends that Balfour was paid $3.1 million for design under the contract. Respondent's Post-Hearing Brief at 65.

The Board finds that Balfour is entitled to the additional cost of designing three larger fuel oil tanks as opposed to the two 20,000 gallon tanks that had been originally specified. As discussed above, the Board recognized that the ASBCA's decision in *Mortenson* applied when the contract specified size and quantity, which bidders could rely on in pricing their bids. *Fluor Intercontinental, Inc.*, 12-1 BCA at 171,961. The project narrative specified two 20,000 gallon fuel tanks. Finding 7. The number of generators that the contractor would provide varied according to which bid alternates were ultimately awarded. Finding 10. After GSA awarded the contract, Balfour determined that the two specified fuel oil tanks would not be adequate to run the generators for seventy-two hours, and Balfour had to change its design to include an additional generator and related changes to accommodate the increased space. Findings 115, 116. GSA errs in its contention that Balfour's proposal included the cost of completing design because Balfour had to do more than complete the 30% design in the bridging documents. Not only did Balfour have to start over with the design of the fuel tanks, it had to produce a design that was materially different from that indicated in the bridging documents.

Accordingly, Balfour is entitled to the cost of designing additional fuel oil tanks.

P. Repair of Brick Pilasters at Building 57 (RCO No. 063)

Balfour claims $29,130 for the cost of repairing the brick pilasters at building 57 (part of the power house), which was necessary because of structural problems. Finding 158. Additionally, Balfour contends that the deteriorated condition of the pilasters was a differing site condition. Appellant's Post-Hearing Brief at 209-11. GSA contends that the bridging documents described the condition of the power house and the extent of the deteriorated masonry. Respondent's Post-Hearing Brief, at 116-17.

The Board finds that Balfour is entitled to recover its costs of repairing the brick pilasters, except for those areas damaged by Balfour's subcontractor, as such work was a constructive change to the contract. As discussed previously, the Government constructively changes a contract when "a contractor performs work beyond the contract requirements without a formal order, either by an informal order or due to the fault of the Government." *VSE Corp.*, 18-1 BCA at 179,910. The record shows that Balfour advised GSA about the deteriorated masonry on the pilasters in the areas just excavated, but GSA gave no useful guidance and only reiterated that the condition of the power house had been documented. Findings 119, 120. The bridging documents required the contractor to "underpin" the power house foundations but said nothing about the contractor's obligation to make any other repairs during construction in spite of the deteriorated condition of the building. Findings 4–6. GSA's witness offered testimony that was, at best, ambiguous as to Balfour's responsibility for making repairs to the power house by leaving Balfour to decide whether

repairs to the deteriorated masonry on the pilasters were necessary for the underpinning of the building. Finding 120. Additionally, GSA's historical architect consulted with Balfour as to the type of mortar to use, and the Board concludes that GSA was involved, in some capacity, with the repairs. Finding 121. The Board finds that GSA constructively changed the contract by implicitly directing Balfour to make those repairs to the masonry on pilasters that had not been damaged by Balfour's subcontractor.

Accordingly, Balfour is entitled to recover the costs of repairs to the brick pilasters on building 57, with the exception of those repairs to damage caused by Balfour's subcontractor.

Q. Design Costs – Telecom and Security Scope (RCO No. 056.1R1)

Balfour claims $13,825 for the cost of designing a telecom closet. Finding 160. The bridging documents lacked a dedicated telecom closet, and GSA modified the contract to compensate Balfour for providing the additional telecom work. Finding 123. GSA contends that Balfour was required under the contract to complete the design. Finding 160.

The Board finds that GSA errs in its contention that the telecom closet was a completion of design that was part of Balfour's contract. As discussed above, the Board finds that Balfour is entitled to the cost of work that was added after contract award, which includes the design of such work.

Accordingly, Balfour is entitled to the cost of the design related to the telecom closet.

R. Design Costs – Electrical Gear Size Increase (RCO No. 002.1)

Balfour claims $13,159 for the costs of design related to the increase in electrical gear size. Finding 161. GSA modified the contract and added the cost of increased gear size but did not include the cost of design. Accordingly, the Board finds that Balfour is entitled to the design costs related to increased gear size.

S. Design Costs – Automatic Transfer Scheme for Unit Substations (versus Kirk Keys) (RCO No. 038.1)

Finally, Balfour claims $1693 for the design costs related to modification of the contract which changed the automatic transfer scheme for unit substations. Finding 162. The bridging documents specified a "Kirk Keys" interlocking system, but after award, GSA modified the contract. *Id*. As was the case in the above discussion, parts Q and R, Balfour incurred additional costs related to the design of work added after contract award.

Accordingly, Balfour is entitled to the increased design costs related to the automatic transfer scheme for unit substations.

II. Summary of Findings

The Board finds entitlement with regard to portions of the claim set forth in Balfour's appeal. Those portions of Balfour's claim are remanded to the contracting officer to negotiate quantum in accordance with this decision. Those findings are summarized below.

A. Contaminated Soil in Excess of Contract Allowance (RCO No.062R2)

Balfour is entitled to recover its costs for fifty-nine days of compensable delay.

C. Temporary Utilities to Center Building (RCO No. 047R2)

Balfour is entitled to recover its costs for modifying the MUP to provide temporary utilities to the center building.

G. Campus Loop and Expansion Tank Pressure Class Specifications (RCO No. 044R3)

Balfour is entitled to recover the additional costs of providing expansion tanks and related equipment.

H. Legal and Consulting Fees (RCO No. 092R1)

Balfour is entitled to recover that portion of its claim for Delta's consultant fees.

I. Winterization of Three Additional Cooling Towers (RCO No. 128)

Balfour is entitled to recover the cost of winterizing three additional cooling towers.

M. Provide Initial Fuel Oil Fill – Bridging Volume (RCO No. 102)

Balfour is entitled to the cost of providing 31,747 gallons of fuel.

O. Design Costs – Increased Fuel Oil Storage Capacity (RCO 010.1R1)

Balfour is entitled to the cost of providing a new design for increased fuel storage.

P. Repair of Brick Pilasters at Building 57 (RCO No. 063)

Balfour is entitled to recover the costs of repairs to the brick pilasters on building 57, with the exception of those repairs to damage caused by Balfour's subcontractor.

Q. Design Costs – Telecom and Security Scope (RCO No. 056.1R1)

Balfour is entitled to the cost of the design related to the telecom closet.

R. Design Costs – Electrical Gear Size Increase (RCO No. 002.1)

Balfour is entitled to the design costs related to increased gear size.

S. Design Costs – Automatic Transfer Scheme for Unit Substations (versus Kirk Keys) (RCO No. 038.1)

Balfour is entitled to the increased design costs related to the automatic transfer scheme for unit substations.

The Board denies the remainder of Balfour's claim.

Decision

The appeal is **GRANTED IN PART**. The appeal is remanded to the contracting officer to negotiate quantum in accordance with this decision.

H. Chuck Kullberg
H. CHUCK KULLBERG
Board Judge

We concur:

Patricia J. Sheridan
PATRICIA J. SHERIDAN
Board Judge

Kathleen J. O'Rourke
KATHLEEN J. O'ROURKE
Board Judge