ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of -	)	
	)	
David Boland, Inc.	)	ASBCA No. 60498
	)	
Under Contract No. W912P8-10-C-0079	)	

APPEARANCES FOR THE APPELLANT: Denis L. Durkin, Esq.
Michael S. Vitale, Esq.
Baker & Hostetler LLP
Orlando, FL
Carys A. Arvidson, Esq.
Daniel Lund III, Esq.
Phelps Dunbar, LLP
New Orleans, LA

APPEARANCES FOR THE GOVERNMENT: Michael P. Goodman, Esq.
Engineer Chief Trial Attorney
William G. Meiners, Esq.
Trial Attorney
U.S. Army Engineer District, New Orleans

OPINION BY ADMINISTRATIVE JUDGE CATES-HARMAN

This appeal arises from a U.S. Army Corps of Engineers (USACE) contract awarded to David Boland, Inc. (Boland) involving the replacement and construction of floodwalls as part of a hurricane protection project in New Orleans, Louisiana. Boland has brought this appeal on behalf of its primary subcontractor, Target Construction, Inc. (Target). Boland alleges that it and Target encountered materially different subsurface conditions from what was represented in the contract documents, including a void present under the area where a temporary retaining structure (TRS) was to be constructed, which resulted in the TRS flooding, and timber piles that made pile driving conditions more difficult. Boland contends this constitutes a Type 1 differing site condition. In the alternative, Boland asserts that the contract's specifications were defective. USACE counters that Boland has failed to demonstrate the existence of a differing site condition, that the contract's specifications were not defective, and that the flooding was caused by Boland and Target's failure to properly install the TRS. The Board conducted a two-day hearing in New Orleans, Louisiana. Only entitlement is before us. We deny the appeal.

FINDINGS OF FACT

The Contract

1. On March 5, 2010, USACE issued Solicitation No. W912P8-10-B-0054 (R4, tab 10[1] at GOV00087; tab 75 at GOV001674). This solicitation sought firms interested in performing work pursuant to USACE's Lake Pontchartrain and Vicinity (LPV) Hurricane Protection Project (R4, tab 75 at GOV001670-71). The work specified in the solicitation involved the replacement and construction of floodwalls along Haynes Boulevard in New Orleans, Louisiana (*id.* at GOV001676).

2. On May 13, 2010, USACE awarded Contract No. W912P8-10-C-0079 at a total price of $19,472,000 (R4, tab 5).

3. Relevant to this appeal, the contract's scope required Boland to design and install a temporary restraining structure (TRS) to facilitate the construction of a sluice gate structure across the existing St. Charles pump station culvert. The sluice gate structure "ties into adjacent floodwalls to create a continuous line of flood protection along the south shore of Lake Pontchartrain." (R4, tab 283 at 1)

4. A TRS, or cofferdam, is a structure that a contractor typically builds when an excavation is necessary to construct a footing or foundation, whether for a building or a wall. It also serves to protect workers from water infiltration and from soil loads collapsing. Its purpose is to keep the excavation area dry, usually with assistance from pumps. (Tr. 1/28; 2/16)

5. The TRS was needed to facilitate construction of a floodwall tie-in at the St. Charles Street box culvert and was subjected to water surges from Lake Pontchartrain (R4, tab 282 at 1).

6. Boland's bid to perform work for contract line-item number 10, Modifications to St. Charles Pump Station Culvert, was a lump sum price of $1,161,000 (R4, tab 39 at GOV000956).

The TRS Specifications

7. As part of its work of furnishing, designing, and installing the TRS, Boland was required to fill the space between the existing base slab and the sheet pile used for the

[1] Tabs 1-240 refer to a Rule 4 file that USCAE also submitted for ASBCA Nos. 59313 and 60294, appeals filed by Boland involving the same contract. Tabs 251-284 are in the Rule 4 file that was submitted for Appeal No. 60498

TRS with a concrete plug as shown on Section A of Drawing S-37 (R4, tab 75 at GOV002074; tab 240 at 138).

8. Section 01 53 00.02 12 of the contract's specifications was entitled "Temporary Restraining Structures." The specifications described the scope of the TRS work as follows:

> This work shall consist of designing, furnishing, installing, maintaining and subsequently removing all temporary retaining structures required to complete this project. The Contractor shall be solely responsible for the design, layout, construction, maintenance and subsequent removal and disposal of all elements of the temporary retaining structures.

(R4, tab 75 at GOV002074)

9. Section 1.4 of the contract's TRS specifications required Boland to submit shop drawings of the TRS layout bearing the stamp and signature of the registered professional engineer who designed the TRS (*id.* at GOV002074-75).

10. Section 1.5.1 of the TRS specifications provided that the contractor was to use and rely on the following in developing the shop drawings: "soil borings, design shear strength profile(s) and unit weight data presented in the plans and/or in the figure(s) attached at the end of this section for its design" (*id.* at GOV002075).

11. Section 1.5.3.4 of the TRS specifications, entitled "Designs and Modifications," further required that:

> All designs and any subsequent modifications to the design presented above shall be performed, certified and stamped by a Registered Professional Engineer and submitted to the Contracting Officer for review and approval. The Registered Professional Engineer shall be present at the Contractor Quality Control preparatory and initial inspections. The Contractor shall, as a part of the Quality Control, furnish a signed statement by the design Professional Engineer stating that the installation is in conformance with the approved design.

(*id.* at GOV002076)

12. Section 1.5.2 of the TRS specifications required the TRS to be capable of maintaining an elevation of +6 feet of water from Lake Pontchartrain and a minimum tip elevation of the sheet piling of -45 feet (*id.* at GOV002075).

13. Section 3.1.2 of the TRS specifications, "Driving," contained the following language:

> The Contractor is advised that buried stumps or similar debris may be encountered periodically on the sheet pile wall alignment and appropriate consideration should be given to hard driving conditions should they occur.

(*id.* at GOV002078)

The TRS Contract Drawings

14. Contract drawings S-33 through S-41 are labeled as drawings applicable to the "St. Charles Pump Station" work (R4, tab 240 at 134-142).

15. Contract drawing S-37, entitled "St. Charles Pump Station Temporary Restraining Structure," includes a depiction of a TRS design plan as well as a depiction of the existing culvert, the culvert foundation, and timber piles supporting the foundation, the location of TRS sheet piles. (*id.* at 138).

16. Drawing S-37 set forth the construction of an east and west TRS separated by an existing box culvert (*id.*).

17. Drawing S-37 included the notation "SHEET PILE SIZE PZ27" and further indicated that the tip elevation of the sheet piles (i.e., the depth to which the sheet piles were to be driven) was -45 feet (*id.*).

18. Drawing S-37 included the following notation:

> GENERAL SHAPE OF COFFERDAM IS FOR ILLUSTRATION PURPOSES ONLY. THE CUT-OFF ELEVATION AND TIP ELEVATIONS SHOWN ON THE DRAWING ARE MINIMUM REQUIRED. MEMBER SIZE[S] ARE GIVEN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE AN EXCAVATION / COFFERDAM / DEWATERING

> PLAN DESIGNED AND STAMPED BY A REGISTERED ENGINEER.

(*Id.*)

19. Section A of Drawing S-37 included a statement that the TRS sheet pile driven adjacent to the existing culvert foundation should be cut to a level just above the top of the existing culvert foundation, directing the contractor to "CUT SHEET PILE AFTER EXCAVATION" (*id.*).

20. Section A of Drawing S-37 also directed the contractor to "FILL SPACE BETWEEN EXIST. FOUNDATION & SHEET PILE WITH CONCRETE" and depicted an arrow pointing to the area between the top of the cut sheet pile and the existing culvert foundation (*id.*).

The Dewatering Specifications

21. The contract's dewatering specifications were contained in Section 31 23 19.00 12 (R4, tab 75 at GOV002395-99).

22. Section 1.1 described the scope of the dewatering specifications and stipulated that Boland was responsible for "designing, furnishing, installing, and operating a system to dewater the excavated area or areas inside of temporary restraining structures [and] maintaining these areas free from water during construction operations" (*id.* at GOV002396).

23. Section 1.4 of the dewatering specifications, entitled "Design," provided:

> The dewatering system shall be designed and stamped by a Registered Professional Engineer. The dewatering system shall be designed using accepted professional methods of engineering design consistent with the best current practice.

(*Id.*)

24. Section 1.6 of the dewatering specifications stipulated that the dewatering system was required to be of the type and category to accomplish certain stated minimum requirements, including that "[n]o upward or vertical or lateral flow of ground water into the excavated area will be permitted at any time" (*id.* at GOV002397).

Additional Relevant Contract Provisions

25. The contract included Section 01 33 00, entitled "Submittal Procedures" (R4, tab 75 at GOV001949).

26. The Submittal Procedures provided, in relevant part:

> 1.5 Approved Submittals
>
> > The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work.

(*id.* at GOV001953)

27. Instruction 10 of the submittal register included in the contract stipulated: "Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications." (*id.* at GOV001970)

28. The contract incorporated Federal Acquisition Regulation (FAR) 52.236-2, DIFFERING SITE CONDITIONS (APR 1984) (*id.* at GOV001761). FAR 52.236-2 provided:

> (a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of
>
> (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or
>
> (2) unknown 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 for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required, provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(*Id.*)

The Contract's Soil Boring Data

29. The geotechnical data provided with the contract is located at drawings B-01 through B-23 (R4, tab 240 at 168-92).

30. Drawing B-01 was entitled "Boring Locations Map Key Plan" and drawings B-02 through B-09 contained boring location maps identifying the locations where the various soil borings were taken (*id.* at 168-76).

31. Drawing B-10 included the following notations under "Typical Notes":

(1) While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and, if encountered, such variations will not be considered as differing materially within the purview of the contract clause entitled "Differing Site Conditions".

> (2) Ground-water elevations shown on the boring logs represent ground-water surfaces encountered in such borings on the dates shown. Absence of water surface data on certain borings indicates that no ground-water data are available from the boring but does not necessarily mean that ground-water will not be encountered at the locations or within the vertical reaches of such borings.

(*Id.* at 177)

32. Drawings B-11 through B-19 contained individual soil boring data (*id.* at 178-88). Drawings B-20 through B-23 contained historical soil boring data (*id.* at 189-92).

33. Soil boring 8-C was the soil boring closest to the existing box culvert. It was located about 200 feet from the culvert. (Tr. 2/38)

34. Data relating to soil boring 8-C was depicted on Drawing B-07 (R4, tab 240 at 174).

35. A "stick log"[2] for soil boring 8-C on drawing B-07 shows the surface ground elevation for this boring as +13 feet (*id.*).

36. No structure was situated over the location where soil boring 8-C was taken (*id.*).

37. The existing levee, an existing flood wall, a set of railroad tracks, and an elevated roadway were situated between the location of soil boring 8-C and the existing box culvert (*id.*).

The URS Geotechnical Report

38. In June 2009, URS, Inc., in contract with USACE, prepared and issued a report entitled "Geotechnical Design Report Lakefront Airport – Year 2057 Level Reach LPV 105 EAST" (URS Geotechnical Report) (app. supp. R4, tab 500).

[2] A stick log of a soil boring shows the soil types that were encountered, the locations of detailed testing, classifications of the soil, and elevations of the boring area (tr. 2/37).

39. The URS Geotechnical Report's stated objective was to assist USACE's Hurricane Protection Office in raising project grades to the 2057 level of protection in Reach LPV 105 East (*id.* at GOV071009).

40. The URS Geotechnical Report included geotechnical data related to the Boland contract, but also included data that applied to project areas outside of the Boland work area (*see id.* at GOV071051) (graphic depiction of location and elevation of soil borings, including soil boring 8-C).

41. Table 1 of the URS Geotechnical Report, entitled "Boring Locations and Elevations," indicated that soil boring 8-C was taken at an offset of 45 feet to the right of the centerline of the levee (*id.* at GOV071038).

42. The URS Geotechnical Report was not included in the contract. The only soil boring data included in the contract was that provided in Drawings B-01 through B-23 (R4, tab 240 at 168-92).

Existing Project Site Conditions

43. Numerous photographs depict visible timber piles standing several feet above the surface and immediately outside the existing box culvert, including a line of timber piles leading from outside both sides of the existing box culvert and leading straight to the areas where both the east and west TRS structures were to be constructed (*see, e.g.*, app. supp. R4, tab 700 at 9, 11, 16, 18, 44-46, 49).

44. A photograph of the area where the sluice gate work was located depicts a visible, continuous mound of rip rap between the railroad tracks and the lake (R4, tab 175 at GOV025115; app. supp. R4, tab 75[3] at DBI Disk 5 010536; *see also* tr. 1/34).

45. On March 17, 2010, representatives from Boland and Target attended a pre-construction conference and site visit (R4, tab 78).

46. Boland's notes from the site visit do not contain any information about subsurface conditions such as the height of the existing box culvert structure or whether a void or other obstructions were present below the area where the TRS was to be constructed (R4, tab 79).

[3] Tab 75 of Boland's Rule 4 supplement was submitted as part of a Rule 4 supplement that was also submitted for ASBCA Nos. 59313 and 60294.

Boland's Subcontract with Target

47. On May 26, 2010, Boland entered into a subcontract with Target "to furnish all labor and material and perform all work for Lake Pontchartrain and Vicinity, Hurricane Protection Project, Lakefront Airport T-Walls LPV 105.02 . . ." (R4, tab 42 at GOV000967). The total price of the subcontract agreement was $9,057,913.45 (*id.*).

48. The subcontract's work schedule included mobilization and demobilization, temporary flood protection, silt fences, selective demolition, structural concrete, St. Charles pump station culvert, clearing and grubbing, levee embankment, steel sheet piling, HP steel piling, granulized surfacing, utility modifications, 48" knife gate valve, 42" knife gate valve, concrete slope paving, and concrete scour protection (R4, tab 42 at GOV000986).

49. The design and construction of the TRS was within the scope of the Target subcontract (*id.* at GOV000979; tr. 1/42).

50. In its subcontract, Target agreed to perform work for "Modifications to St. Charles Pump [Station] Culvert" at a lump sum price of $276,925 (R4, tab 42 at GOV000986).

Target's TRS Design

51. Target hired Mr. Jatin Desai to design the TRS (tr. 1/43). Mr. Desai, a structural engineer, was general manager and president of Maverick Engineering in Houston, Texas (tr. 1/79).

52. On August 30, 2010, Boland forwarded submittal 01 53 00.02 12-1 for the TRS shop drawings and design calculations prepared by Mr. Desai to USACE (R4, tab 44 at GOV001047).

53. Mr. Desai's first submittal for the sluice gate for which the TRS was to be constructed included a note on Section Detail 4 to "FILL [THE] SPACE BETWEEN EXIST. FOUNDATION & SHEET PILE WITH CONCRETE" (*id.* at GOV001046; *see* finding 7).

54. USACE's Engineering Division reviewed the submittal. On September 14, 2010, USACE's administrative contracting officer (ACO) responded with a "C-code," i.e., recommend for approval, except as noted on the drawings and indicated that a resubmission of the design was required. (*Id.* at GOV001047)

55. On September 30, 2010, Boland resubmitted Mr. Desai's TRS design (R4, tab 45 at GOV001073).

56. Like the first submittal, the second submittal included a note on Section Detail 4 of Drawing S00.02 to "FILL [THE] SPACE BETWEEN EXIST. FOUNDATION & SHEET PILE WITH CONCRETE" (*id.* at GOV001072).

57. Having failed to adequately address the government's original comments in the resubmittal, on October 22, 2010, the ACO disapproved the second TRS submittal (*id.* at GOV001073).

58. The parties held a project meeting on November 17, 2010 (R4, tab 46 at GOV001083).

59. The minutes of the meeting noted that Target was preparing the TRS and sluice gate submittal. USACE's project engineer, Mr. Robert Mora, advised that USACE could provide technical support to help Target if necessary. (*id.* at GOV001085)

60. Boland forwarded Target's dewatering plan for the sluice gate, Submittal 31 23 19.00 12-1, to USACE on November 17, 2010 (R4, tab 47 at GOV001087). The ACO disapproved the plan on December 13, 2010 (*id.* at GOV001093).

61. USACE rejected the plan because it considered the submittal to be incomplete. The submittal did not include any shop drawings or design calculations to support the adequacy of the 2-inch pipe proposed by Target to dewater the TRS. (*id.* at GOV001094-95)

62. On November 18, 2010, Boland forwarded a third TRS design submittal, 01 53 00.02 12-1.2, to USACE (R4, tab 48).

63. Like the first two submittals, this submittal included a note on Section Detail 4 of Drawing S00.02 to "FILL [THE] SPACE BETWEEN EXIST. FOUNDATION & SHEET PILE WITH CONCRETE" (*id.* at GOV001133).

64. On December 6, 2010, the ACO disapproved the third submittal (*id.* at GOV001104). The ACO stated that the submittal's connection details for the beam on top of the existing structure and additional supports for the TRS struts were inadequate and stated the "drawings and calculations are inadequate to demonstrate that the TRS can withstand earth pressure exerted by embankment and railroad." The ACO also noted that Boland needed to provide a construction sequence. (*Id.* at GOV001105-06)

65. By email dated January 8, 2011, Target's regional manager, Mr. Edward Riggs, advised Boland's construction manager, Mr. Jason Whitworth, that Mr. Desai

would be attending a meeting with USACE, Boland, and Target personnel on January 11, 2011 (R4, tab 251).

66. Attendees at the January 11 meeting also included Mr. Mora and representatives from URS (R4, tab 259 at DBI Disk 3 00005578-79).

67. Mr. Mora's notes from the meeting reflected that the sheets running adjacent to the culvert would need to be cut at some point, the area between the wall and the sheets would need to be plugged to prevent water from seeping in, and that the seal would need to be achieved before cutting (R4, tab 254 at 9; tab 259 at DBI Disk 300005579).

68. On January 19, 2011, Boland forwarded a fourth TRS design submittal, 01 53 00.02 12-1.3, to USACE (R4, tab 252 at DBI Disk 3 00009901).

69. On January 31, 2011, the ACO approved Boland's fourth submittal "except as noted" (*id.*).

70. As was the case with the previous three submittals, the fourth TRS submittal included a note on Section Detail 4 of Drawing S00.02 to "FILL [THE] SPACE BETWEEN EXIST. FOUNDATION & SHEET PILE WITH CONCRETE" (*id.* at DBI Disk 3 00009919).

71. Under "Construction Sequences," Item 6 on Drawing S00.02 stated: "SEAL GAP BETWEEN THE EXISTING CULVERT WALL SHEET PILE AND BOTTOM OF THE FOUNDATION AS PER DETAIL 3 AND 5. PROVIDE DEWATERING AS NEEDED" (*id.*).

72. Under "Notes," Item 5 on Drawing S00.02 stated: "ELEVATIONS SHOWN ARE BASED ON INFORMATION FURNISHED. CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS AND CONFIRM" (*id.*).

73. Drawing S00.03, entitled "Dewatering Layout for TRS II," included a depiction of the TRS sheet piles adjacent to the box culvert with the notation "FILL SPACE BETWEEN EXIST. FOUNDATION & SHEET PILE WITH CONCRETE" (*id.* at DBI Disk 3 00009920).

74. Both Drawings S00.02 and S00.03 were based on the belief that the elevation of the top of the existing culvert slab was -12.13 feet (*id.* at DBI Disk 3 00009919-20).

Target's Installation of the East TRS

75. The installation of the sheet piles for the TRS at the sluice gate began on March 15, 2011 (R4, tab 53 at GOV001258-61).

76. A USACE quality assurance report (QAR) dated March 22, 2011, under the "Remarks" section, stated that:

> Contractor had to review the plans for the sheet piles at the sluice gate. The piles were not per approved dwg. I informed Tony Craft of the problem at the sluice gate. Tony Craft correct action was to pull the sheet piles and drive them in the correct locations.

(R4, tab 51 at GOV001203)

77. A Boland quality control report (QCR) dated March 25, 2011 stated, under the "Sluice Gate" section, that "[t]he layout is being revised in the field to correctly match the cofferdam approved plans" (R4, tab 53 at GOV001306).

78. A Boland QCR dated March 26, 2011, indicated, under the "Sluice Gate" section, that while the sheet piles for the TRS were being driven, it "again" struck the footing of the existing box culvert (*id.* at GOV001310).

79. In a meeting held on April 5, 2011, Boland advised Target that "more cares [sic] should be taken when laying out and driving sheet pile" (R4, tab 209 at 6).

80. The last entry in the daily logs regarding installation of the TRS sheet piles on the east side of the box culvert was Boland's QCR dated April 9, 2011, which stated: "Sluice Gate: Workers continued driving sheets on the east side of the culvert" (R4, tab 53 at GOV001361).

81. USACE's QARs indicate that Target had begun driving TRS sheets on the west side of the existing box culvert by April 10, 2011 (R4, tab 54 at GOV001367).

82. By letter dated April 22, 2011, Mr. Desai informed Mr. Riggs that he had performed a visual inspection of the TRS that day and that based on his observations, it was his opinion that the installation was generally in accord with his plans and that work inside the TRS could begin (app. supp. R4, tab 149 at GOV022520).

83. Target's president, Mr. Jeff Fegert, testified that he was not aware of anyone from Target contacting Mr. Desai about any problems encountered while driving the TRS sheet piles (tr. 1/68).

84. Mr. Desai testified that as of the date of his site visit, he had not been provided with any information about the existence of timber piles or similar debris at the job site that were sufficient for him to change his TRS design (tr. 1/115-16).

85. Mr. Fegert testified that he did not consider the concrete required to be placed between the TRS sheet pile and the existing culvert foundation to be a "plug." He confirmed that the concrete was not placed before the flooding occurred in the TRS (tr. 1/39-40; 1/65-67).

86. A USACE QAR dated April 26, 2011, included the following notation:

> I witnessed contractor cutting sheet piles to grade at the sluice gate per submitted dwg. I discussed with Dan Boland the steps that had to be followed to finish the sluice gate. Contractor is going to cut the sheet piles and then grout in between the sheets and box culvert. The next step is driving the h-piles and then placing the stab slab. Once that is complete the rebar will be installed and [the] base slab place. Then the butteris wall will be placed supporting the new sluice gate and platform.

(R4, tab 55 at GOV001409)

The Flooding of the TRS

87. In a QAR dated April 29, 2011, USACE's inspector noted that Target drove H-piles at the east side of the sluice gate that day (R4, tab 56 at GOV001411).

88. The same QAR reported that:

> Subcontractor (Target) complete[d] h-pile template for the sluice gate and will start driving h-pile on Saturday 30 April 2011. Water is entering the TRS on the east side at the conner [sic] where the lake meets the box culvert. The leak is not bad but workers are watching the pumps all night to ensure water does not reach too high a level inside the TRS.

(*id.* at GOV001412)

89. In a QAR dated April 30, 2011, USACE's inspector reported that:

> I witnessed TRS fill up with water at the east side of the sluice gate. I was informed by QA George Connel that most of the water entered the TRS in between the sheet piles and the box culvert. I asked workers and Dan Boland if they had grouted in between the sheet piles and box culvert as per submitted dwg prior to h-pile driving. No answerer [sic] was given and it looks like the area between were the sheet piles and the box culvert is located had no evidence of grout or concrete. A further investigation will be completed on Monday 2 May 2011.

(R4, tab 57 at GOV001416)

90. On May 1, 2011, Target began placing approximately nine yards of concrete in the location where the contract drawings and Mr. Desai's design indicated the concrete plug was supposed to be placed in an attempt to stop the flooding (tr. 1/36-39).

91. Mr. Whitworth described this as an effort to "place an emergency cap of concrete over the apparent source" of the flooding (app. supp. R4, tab 600 at DBI Disk 1 0038197).

92. Target began placing this concrete at the northwest corner of the east TRS; but Mr. Fegert testified that Target may also have placed concrete in the southwest corner on the first day of placement (tr. 1/36-37).

93. According to Mr. Fegert, water was flooding into the southwest corner of the TRS because the last sheet pile at this location had not been driven to design depth (R4, tabs 262, 268).

94. Boland's QCR dated May 1, 2011, provided:

> Sluice Gate:
>
> 3 h-piles were driven on 4/30/11.
>
> No h-piles were driven today
>
> Water is now coming in the work area from underneath the culvert. Additional pumps have been brought on site in an effort to dewater the work area. Work continued during the day to dewater the area. Grout was placed with a

> trimmie [sic] pipe between the new sheet piles and the existing culvert wall in an effort to stop the water.

(R4, tab 58 at GOV001417)

95. The placement of concrete on May 1, 2011, failed to stop the flooding (R4, tab 33 at GOV000933; tr. 1/37).

96. Boland QCRs dated May 1 through May 8, 2011, describes Target's failed efforts to stop the east TRS from flooding. Target mobilized more than 5,000 bags of sand and ran pumps to try to plug the void space with sand (R4, tab 60 at GOV001426, GOV001432, GOV001444, GOV001448, GOV001452, GOV001456).

97. Boland's QCR dated May 5, 2011, noted that water was "getting pulled under the culvert and into the cofferdam between the culvert walls and the sheet pile that will remain as part of the new buttress wall foundation" (R4, tab 60 at GOV001444).

98. In USACE's QAR dated May 2, 2011, the inspector reported:

> I followed up on the failure of the TRS on the east side of the sluice gate. I was informed by workers that they had no knowledge of concrete or grout being placed inside of the TRS prior to the failure of the TRS. I asked Boland employees including QCs and project manger [sic] if they had any knowledge of concrete or grout being placed prior to the failure of the TRS and they said they had no knoledge [sic] of concrete or grout being place. I informed them that under there [sic] submitted TRS dwg that they were to plug the area in between the sheet piles and box culvert with concrete once the sheet piles were cut down to grade. I also informed them that we had gone over this and [sic] meetings and they had been reminded more than once in the field. They agreed and now are just trying to fix the TRS.

(R4, tab 59 at GOV001424)

99. Prior to the time the TRS began to flood, Target had not installed the concrete plug referenced in the contract drawings and Mr. Desai's design submittal (tr. 1/64; R4, tabs 57 at GOV001416; 59 at GOV001424; 259 at DBI Disk 3 00005580).

100. Boland's email to USACE dated May 3, 2011, attributed "unforeseen conditions related to the existing structure" as a possible cause of the flooding (R4, tab 33 at GOV000933).

101. In an email dated May 4, 2011, Mr. Whitworth conveyed to Target that USACE had made a preliminary determination that "the water is coming in between the sheet pile and the existing structure" (R4, tab 274 at DBI Disk 3 00011457).

102. In an email dated May 4, 2011, Mr. Fegert explained to Mr. Whitworth that Target had not installed the concrete plug "as referenced in the TRS plan" because it had been directed by Boland personnel not to do so:

> ALL construction actives [sic] at pump station has been the result of specific, on-site direction from DBI rep, Dan Boland who you placed in control of our operations, including the decision to circumvent concrete placement as referenced in the TRS plan. Instead, he decided to wait to pour this area between the TRS and existing structure, at time of footing pour. Our work plan suggested the pour, prior to, if seepage was occurring. He and Larry obviously thought seepage element was negligent, in their inspection, and they directed us to proceed with H pile placement.

(R4, tab 255 at DBI Disk 3 00005540)

103. By letter dated May 5, 2011, USACE's COR advised Boland that the TRS had flooded because the required concrete plug was not installed as indicated in Mr. Desai's design submittals and as instructed at the January 11, 2011 TRS meeting:

> During installation of TRS sluice gate and subsequent dewatering activities it was noted that after cutting sheet piles adjacent to the culvert, concrete was not placed between the sheet piles and the culvert. On sheet S00.03 of your approved TRS submittal in section detail 2 it is noted to "fill space between existing foundation & sheet pile with concrete." This is also noted on contract drawing S-37 in section detail A. During a meeting to discuss the TRS submittal on 1-11-11 sealing of this area was discussed at length and you indicated your plan was to seal this area prior to cutting the sheet piles. Your TRS design engineer and the government's designer of record both agreed this was acceptable.

(R4, tab 257 at GOV000127)

104. Via email dated May 6, 2011, Mr. Whitworth advised Mr. Riggs that "[y]our approved TRS plan shows putting the concrete between the sheet pile and existing structure prior to cutting the sheet pile" and further directed that any revisions to the approved TRS plan be submitted to USACE for review (R4, tab 258 at GOV00009896).

105. By letter dated May 6, 2011, Mr. Whitworth informed Mr. Fegert that Target's superintendent had advised Target's assistant superintendent "to be mindful of sealing the gap between the TRS sheet pile and the existing structure" (R4, tab 259 at GOV00005579).

106. In the same letter, Mr. Whitworth advised that despite the presence of timber piles, "Target was able to continue driving the sheet piles," and further stated:

> Mr. Berkley (Target's geotechnical engineer who consulted with you on 4 May 2011) has stated to our field team that the timber piles which are assumed to be around 35' would not affect the dewatering or TRS as alleged by you and Mr. Riggs during the inspection Tuesday.

(*Id.*)

107. Mr. Whitworth further opined that "[t]he cause of the existing condition is that Target failed to seal the gap between the existing structure and the TRS sheet pile as stipulated in the Approved TRS Plan and the Contract Documents" (*id.* at GOV00005580).

108. By letter dated May 7, 2011, Mr. Fegert advised Boland's president, Mr. David Boland, that the sheet piles at the southwest corner of the TRS had not been fully driven and opined that this was responsible for causing the flooding. He added:

> Upon further deliberation, I decided to interview our lead sheet pile driver and welder, both of whom have been taking direct orders and supervision from Dan Boland during the construction of the TRS. What we learned is surprising and alarming. Both of them said that Dan instructed them to by-pass the construction requirement outlined in Details 3 and 5 of sheet S00.02 of the Temporary Retaining Structure II plans, by running the sheetpile to the outside edge of the structure (overlapping edge, non-connected to structure). The bottom of the last

> sheet creating the overlap was not driven to design depth; instead, Dan directed them make a cut to accommodate the existing structure's footing. We believe this explains why water rushes into the existing southwest corner of the East TRS when the water level is pumped down. . . .We were never informed that Dan had directed deviations in the construction of TRS and, until today, believed that all pile had been driven to design depth and details followed in accordance to plans.

(R4, tab 262 at DBI Disk 3 00005570)

109. In a letter to Mr. Riggs dated May 10, 2011, Mr. Desai referred to the concrete to be placed between the TRS sheet piles and the culvert formation slab as a "plug" on four occasions (R4, tab 38 at GOV000949).

110. In a letter to Mr. Boland, Mr. Fegert confirmed his prior belief that the sheet piles on the southwest corner of the TRS had not been driven to full design depth (R4, tab 268).

111. In a letter to Mr. Fegert dated May 30, 2011, Dr. Berkley Traughber, a geotechnical engineer retained by Target, made the following observation about the source of the TRS flooding:

> Specifically, the east braced excavation or TRS was flooded as water from Lake Pontchartrain flowed upward through a "slot" between the pre-existing concrete culvert structure and west sheet pile wall of the east TRS. This flooding occurred after the west sheet pile wall was cut off at approximately the top of the existing culvert foundation slab.

(R4, tab 37 at GOV000945)

112. In the same letter, Dr. Traughber referred to the concrete to be placed between the TRS sheet piles and the existing culvert foundation slab as a "concrete plug" (*id.*).

113. By letter dated June 24, 2011, USACE's ACO advised Boland that its failed attempts to dewater the east and west cofferdams had been going on for more than six

weeks and further noted that the continual dewatering efforts may have made the problem worse:

> The temporary retaining structure has been dewatered several times which may have caused additional scouring beneath the existing box culvert. These repeated attempts have only contributed to adding difficulty to properly sealing the cofferdam.

(R4, tab 270 at DBI Disk 3 0010447)

114. In an email to Mr. Whitworth dated October 25, 2011, Mr. Riggs observed that "the TRS was intact and uncompromised for several days after the excavation was complete with no concrete plug installed and it was not until the pile operation began that the failure occurred" (R4, tab 272 at DBI Disk 1 00039076).

115. By letter dated November 16, 2011, Mr. Riggs stated that on March 22, 2011, Boland removed Target's superintendent from the project and hired Mr. Dan Boland of Boland to direct work at the sluice gate. Mr. Riggs further stated that Dan Boland directed Target not to install the concrete plug in an effort to expedite the project:

> Dan Boland directed [Target] forces to leave the concrete plug out of the sequence because it would be faster to pour it with the subsequent footing pour. This was in direct conflict with Royce Jennings' plan as outlined in our construction sequence discussed in the pre-activity meeting which was held on or about January 12, 2011. Mr. Jennings was adamant that this plug be placed within the same time period of cutting the sheets to facilitate the new wall construction . . . .

(R4, tab 52 at GOV001255-56)

116. In a letter to Mr. Riggs dated November 21, 2011, Mr. Desai rejected Target's assertions that his TRS design was deficient and further stated that Target had not followed proper construction processes necessary to prevent the TRS from flooding (R4, tab 273).

117. In the same letter, Mr. Desai stated that despite the circumstances, he would assist Target in its submission of a request for equitable adjustment (REA) to USACE "provided we can work together in an amicable manner to develop a satisfactory solution" (*id.*).

118. In a letter to Mr. Whitworth dated December 28, 2011, Mr. Riggs reiterated Target's position that the concrete plug was not installed "because Dan Boland directed that the plug to be left out" (R4, tab 276 at DBI Disk 3 00006551).

119. In a letter to Mr. Riggs dated January 12, 2012, Mr. Whitworth asserted that the concrete plug had not been installed at the direction of Target's superintendent, Mr. Royce Jennings (R4, tab 278 at DBI Disk 3 00011707-08).

Target's REA and Claim Letters to Boland

120. Via letter dated May 13, 2011, Mr. Riggs advised Mr. Whitworth that the geotechnical data that had been available to Mr. Desai had evidence of continuous soil below the level of excavation. But when performing the work, Target encountered "a large void under the [TRS] structure" which Mr. Riggs asserted constituted a differing site condition. Mr. Riggs referred several times to the "concrete plug" that should have been placed between the TRS sheet piles and existing box culvert but opined that the plug would not have prevented the leak even if it had been installed. Mr. Riggs added that Target had placed 12 cubic yards of concrete (grout) "into a void area where the water had been rushing in on the SW corner of the east TRS." (R4, tab 31 at GOV000915-16)

121. In the same letter, Mr. Riggs alleged that Target encountered "several timber pile[s] outside of the existing structure" which caused "much more difficult driving conditions" and that some of the TRS sheets had been driven through some timber piles, making it more difficult to keep the sheet piles plumb and requiring some of the piles to be removed and re-driven. According to Mr. Riggs, this necessitated the removal of entire sections of the wall to facilitate installation. (*id.* at GOV000915)

122. On July 12, 2011, Target sent an REA to Boland seeking an unspecified monetary amount. In its REA, Target restated its prior allegations of "a large void or voids" present "under the existing culvert" that caused the TRS to flood after H-pile driving began. Target also alleged that the presence of undisclosed timber piles created "much more difficult driving conditions" and that the presence of timber piles "caused major delays in the execution and progress of the TRS construction." (R4, tab 32 at GOV000919, GOV000922)

123. In neither its REA nor Mr. Riggs' May 13, 2011 letter did Target allege that the timber piles contributed in any way to the flooding of the TRS. Rather, Target only asserted that the presence of the timber piles created more difficult driving conditions, required the removal of sheet piles that had already been placed, and caused unspecified delays. (*see* R4, tabs 31-32)

124. In neither its REA nor Mr. Riggs' May 13, 2011 letter did Target allege that a lower elevation than expected of the existing box culvert contributed in any way to the flooding of the TRS. In fact, neither of these letters even mentioned the culvert elevation issue. (*see* R4, tabs 31-32)

Mr. Desai's Testimony

125. Mr. Desai was accepted by the Board as an expert on behalf of appellant in the field of structural engineering (tr. 1/83). He is not a geotechnical engineer (tr. 1/79).

126. Mr. Desai testified that he did not receive the entire URS Geotechnical Report in connection with his design of the TRS and that he only received and reviewed the soil borings from the report that were closest to the project site (tr. 1/119).

127. Mr. Desai testified that based on his review of the soil data provided by USACE, he saw no indication of a likely void underneath the existing box culvert (tr. 1/104).

128. Mr. Desai testified that he did not redesign the concrete plug because he considered it to be permanent and outside his design responsibility (tr. 1/95).

129. Mr. Desai testified that the pile beneath the concrete plug was also permanent in that it would not be "taken out" after construction was complete (tr. 1/95).

130. Mr. Desai testified that step 6 of the construction sequence for installing the plug in the TRS was to "seal gap between the culvert wall, sheet pile, and bottom of the foundation" (tr. 1/121; R4, tab 49 at GOV001176). Mr. Desai acknowledge that as of the time he wrote his April 22, 2011 letter to Mr. Riggs, Target had not completed the full construction sequence set forth in his TRS design (tr. 1/120-21).

131. While he did not personally witness the construction of the TRS, Mr. Desai described the construction as "generally" in accord with his design (tr. 1/122-23).

132. As noted above, Mr. Desai was qualified as an expert in structural engineering, and not geotechnical engineering. As such, we find his testimony on the conditions of the soils and the impacts to the work performed by Target to be lacking in credibility. We also find unpersuasive his opinion that Target generally followed his design of the TRS. Mr. Desai's testimony failed to address the fact that Target did not install the concrete plug as identified in the drawings at construction sequence no. 6. Nor did he address how the failure to follow construction sequence no. 6 impacted the TRS and the subsequent flooding.

Expert Report and Testimony of Chad Rachel

133. Mr. Chad Rachel, a licensed professional engineer employed by USACE, was accepted by the Board as an expert in the field of geotechnical engineering (tr. 2/6-7, 15).

134. Mr. Rachel prepared an expert report for this appeal (R4, tab 282).

135. Mr. Rachel testified that groundwater is typically contained within the pores of soil, and that the water tends to travel through these pores and seep into an empty space, such as a TRS excavation. According to Mr. Rachel, a TRS ideally should be designed to cut off this seepage. (tr. 2/21)

136. In his expert report, Mr. Rachel opined that "[c]onstruction contract documents reviewed indicate that the sheet piling sections for the TRS were driven to grade without any major issues or problems" (R4, tab 282 at 2; *see also* tr. 2/21-22).

137. Mr. Rachel interpreted Item No. 6 of the construction sequence on Mr. Desai's TRS Drawing S00.02 to direct the contractor to seal the space between the external web of the new sheet pile and the foundation of the culvert (tr. 2/23-24; R4, tab 252 at DBI Disk 3 00009919; tab 282 at 3). He added that if the plug were to be removed, "water would flow into the TRS, or could flow into the TRS" (tr. 2/83).

138. According to Mr. Rachel, USACE's QARs indicated that the TRS excavation had been completed for several days before water began to enter the TRS.

139. Accordingly, he reasoned, Target had enough time to install the concrete plug and allow for it to cure and harden (tr. 2/30; *see also* R4, tab 282 at 3).

140. Mr. Rachel opined that Target, even after being reminded to do so, did not follow Mr. Desai's approved design and construction sequence (tr. 2/30-31; R4, tab 282 at 4).

141. Mr. Rachel testified that near-surface soils in southeast Louisiana are predominantly clays. Clays tend to shrink or settle, meaning that when water leaves the pores within, the soil mass pores tend to shrink. (tr. 2/33)

142. Mr. Rachel testified that voids usually can be found below pile-founded structures in southeast Louisiana (tr. 2/34).

143. According to Mr. Rachel, any reasonable geotechnical engineer practicing in southeast Louisiana would foresee and expect a void to exist below a pile-founded

structure because of soil sediment, shrinkage, and subsidence (tr. 2/33; R4, tab 282 at 4).

144. According to Mr. Rachel's testimony, soil boring 8-C indicated that the "up end" material was a clay material extending approximately 15 to 20 feet deep. Next was a silty sand material layer about 10 feet thick. Below that was a poorly graded sand layer roughly 25 to 30 feet deep. Further down was a clay layer, a small silt layer, and a silty sand layer at the end of the boring. (tr. 2/38-39)

145. In Mr. Rachel's opinion, there was no indication that the soil conditions encountered at the TRS location were materially different from those reported in soil boring 8-C (tr. 2/39).

146. Mr. Rachel opined that it would not be reasonable to rely on the information from soil boring 8-C to conclude that a void did not exist under the existing culvert structure because a boring is a snapshot of the location extending from the surface of the ground to the depth of the boring. A void beneath the structure on the other hand would be space above the surface of the ground and thus would not be captured in the boring. (tr. 2/40-41)

147. According to Mr. Rachel, pumping action such as that taken by Target could have created velocities powerful enough to move clay material. Thus, any void that may have existed could have become larger because of the pumping. (tr. 2/41-42)

148. Mr. Rachel opined that "[i]f the plug was installed—properly designed and installed, which I believe it could have been, then the flow of water that would have come from beneath the culvert by way of a void would not have been able to enter the TRS" (tr. 2/88). We find the government expert's opinion credible, and more consistent with other parts of the record.

Expert Report and Testimony of Dr. Leslie Campbell

149. Dr. Leslie Campbell, a structural engineer employed by USACE, was accepted by the Board as an expert in the field of structural engineering (tr. 1/93, 100-01).

150. Dr. Campbell prepared an expert report for this appeal (R4, tab 283).

151. Dr. Campbell testified that a concrete plug could have been appropriately designed and successfully installed in the gaps between the sheet piles and the existing culvert base slab (tr. 2/103-04; *see also* R4, tab 283 at 3).

152. In an engineering analysis that included a consideration of the allowable bond stress between the concrete plug and the steel sheet piles, Dr. Campbell concluded that a concrete plug with a thickness of nine inches would have been sufficient to resist the load imposed on the plug without the need for a Nelson stud or a similar device (tr. 2/103-08; R4, tab 283 at 6).

153. Dr. Campbell's analysis included a graphic showing the geometry of the area that would be filled with concrete to resist the water (tr. 2/104-05; R4, tab 283 at 6).

154. In an alternative analysis, Dr. Campbell determined that the concrete plug also could have been designed with the use of Nelson studs or similar mechanical connections to resist the uplift pressure caused by the water below the TRS (tr. 2/108-10; R4, tab 283 at 7).

155. Dr. Campbell testified that the plug "acted as the positive connection between the sheet pile, which was resisting water below the ground, and now the existing culvert, which was resisting water above the ground. So the only way to make a continuous line of protection there was to install that plug." That continuous line would resist the water above ground (tr. 2/159).

156. According to Dr. Campbell, voids do not increase pressure, but rather allow water to flow through the soil. The pressure is driven by water outside the TRS versus the point where the water is being lowered. While a void may increase the flow of water, it does not change pressure. (tr. 2/147)

157. The presence of voids, timber piles, or rip rap at the TRS site had no impact on Dr. Campbell's analysis (tr. 2/123-24).

158. Dr. Campbell testified that to the extent that the actual elevation of the existing box culvert slab may have been lower than indicated in the original contract drawings, such lower elevation would have only warranted a slight increase in the thickness of the concrete plug or in the size of any mechanical connector that might be used (tr. 2/129-30).

159. Dr. Campbell testified that as a structural engineer, she would have consulted with a geotechnical engineer on a project such as this about issues related to soil conditions and properties, such as angle of friction and cohesion (tr. 2/149-50). We find Dr. Campbell's testimony to be credible, well-founded and reliable.

Boland's REA, Claim, and Appeal

160. On August 19, 2011, Boland submitted an REA to USACE seeking $1,160,856 and a time extension of 39 calendar days for additional work required to dewater the TRS excavations (R4, tab 30).

161. On November 12, 2014, Boland submitted a revised REA in the amount of $1,385,655 with additional documentation supporting its request (R4, tab 34).

162. By letter dated August 12, 2015, Boland converted its revised REA into a formal claim requesting a final decision from USACE's contracting officer (CO) (R4, tab 35).

163. The CO denied Boland's claim in its entirety via letter dated February 1, 2016 (R4, tab 29).

164. On March 9, 2016, Boland appealed the CO's decision to the Board (R4, tab 28).

165. The Board docketed Boland's appeal as ASBCA No. 60498 on March 10, 2016.

DECISION

The Parties' Contentions

Boland alleges that the void below the TRS structure and timber piles in the area adjacent to the existing box culvert structure were reasonably unforeseeable and forced Boland to revise its means and methods of construction at additional costs, thus constituting a Type 1 differing site condition (app. br. at 4-22). Additionally, Boland asserts that USACE provided defective specifications for the TRS (app. br. at 23-27). USACE counters that Boland has failed to demonstrate that either the void below the box culvert or the timber piles amounted to a differing site condition (gov't resp. at 1-26) and that Boland has failed to show that the specifications were defective (*id.* at 26-30).

Elements of a Type 1 Differing Site Condition Claim

A Type 1 differing site condition exists when a contractor encounters "[s]ubsurface or latent physical conditions at the site which differ materially from those indicated in [the] contract." FAR 52.236-2(a)(1). To establish entitlement to an equitable adjustment due to a Type 1 differing site condition, a contractor must prove by a preponderance of the evidence that (1) the conditions in the contract differed

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) (citing *H.B. Mac, Inc. v. United States*, 153 F.3d 1338, 1345 (Fed. Cir. 1998)); *NDG Constructors*, ASBCA No. 57328, 12-2 BCA ¶ 35,138 at 172,502. In determining whether these criteria have been met, the Board must place itself "into the shoes of a reasonable and prudent contractor. . . ." *H.B. Mac, Inc.*, 153 F.3d at 1345.

Boland Has Failed to Demonstrate that the Conditions it Encountered Differed Materially From Those Provided in the Contract

The first element of a Type 1 differing site condition claim requires the contractor to demonstrate that the conditions indicated in the contract differed materially from those it encountered during performance. *Comtrol, Inc.*, 294 F.3d at 1362; *H.B Mac, Inc.*, 153 F.3d at 1345; *NDG Constructors*, ASBCA No. 57328, 12- 2 BCA ¶ 35,138 at 172,502. Whether the contract indicated the existence of a particular site condition is a matter of contract interpretation that requires the Board to evaluate how a reasonable and prudent contractor would have interpreted the contract documents. *H.B. Mac, Inc.*, 153 F.3d at 1345.

Boland alleges that it encountered materially different subsurface conditions at the project site from those represented in the contract documents because the contract failed to indicate the presence of a void under the existing box culvert structure and timber piles in the area near the existing box culvert (app. br. at 6-12).[4] However, as the Board has held, "it is well established that the Government's mere silence is insufficient to establish the absence of unfavorable site conditions." *Kato Corp.*, ASBCA No. 51513, 02-1 BCA ¶ 31,669 at 156,495; *M. Raina Assocs., Inc.*, ASBCA Nos. 50486, 50488, 99-1 BCA ¶ 30,180 at 149,321. "Similarly, 'hopes, expectations, guesses, or suggestions . . .' as to latent conditions do not constitute positive indications for purposes of establishing a Category 1 differing site condition." *Kato*, 02-1 BCA ¶ 31,669 at 156,495 (quoting *Pac. Alaska Contractors, Inc. v. United States*, 436 F.2d 461, 470 (Ct. Cl. 1971)). Despite appellant's attempts to frame the issues around a differing site condition, the contract documents warned Boland of the

[4] It wasn't until well after the incident of the water seepage that appellant asserted there was a "large void under the [TRS] structure" that constituted a differing site condition (finding 120).

possibility of both the void and the timber piles. Drawing B-10's Typical Notes section provided:

> (1) While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and, *if encountered, such variations will not be considered as differing materially within the purview of the contract clause entitled "Differing Site Conditions".*

(Finding 31) (emphasis added) Section 3.1.2 of the TRS specifications, "Driving," stated:

> The Contractor is advised that buried stumps or similar debris may be encountered periodically on the sheet pile wall alignment and appropriate consideration should be given to hard driving conditions should they occur.

(Finding 13). We determine that appellant's description of what it encountered during performance was similar to what was described in the contract. Accordingly, we conclude that Boland has failed to meet the first element.

Boland has Failed to Demonstrate That the Void and the Timber Piles Were Reasonably Unforeseeable

Although Boland has failed to meet the first element, for sake of completeness of our analysis, we move to the second. The second element of a Type 1 differing site condition claim requires the contractor to prove that the conditions it encountered were reasonably unforeseeable based on all information available to the contractor at the time of bidding. *Comtrol, Inc.*, 294 F.3d at 1362; *H.B Mac, Inc.*, 153 F.3d at 1345; *NDG Constructors*, 12-2 BCA ¶ 35,138 at 172,502. Boland asserts that both the void[5] and the timber piles were reasonably unforeseeable (app. br. at 12-14). We disagree.

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[5] The government argues that appellant presented a new claim at the eleventh hour, stating "[a]ppellant appears to have made a subtle, yet critical, shift in its theory about the location of the alleged void it encountered on the job site . . ." from a void under the structure to an area where the TRS was constructed (govt. br. at 3). The government speculates that appellant may have made this shift so that it can argue that the concrete plug would not have prevented the flooding (*id.*). The scope of the appeal, and our jurisdiction, are dependent upon the claim that is submitted to the Contracting Officer. Under the CDA, the Board has

Boland presented no expert or fact testimony on the issue of whether the void or timber piles were foreseeable, but instead merely argues that these conditions were unforeseeable because they were not disclosed in the contract documents and were not observed during its pre-bid site visit (app. br. at 13). As detailed above, Drawing B-10, and Section 3.1.2 of the TRS specification, should have put Boland on notice that debris was expected in the work area and could cause difficult driving conditions (findings 13, 31). In addition, timber piles were depicted in several photographs of the TRS work area taken prior to bid. Those photographs included a line of timber piles

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jurisdiction over disputes based upon claims that a contractor has first submitted to the CO for decision. 41 U.S.C. § 7103. We lack jurisdiction over claims raised for the first time on appeal, in a complaint or otherwise. *D.L. Braughler Co. v. West*, 127 F.3d 1476, 1480 (Fed. Cir. 1997); *Consolidated Defense Corp*., ASBCA No. 52315, 03-1 BCA ¶ 32,099 at 158,668. Whether a claim before the Board is new or essentially the same as that presented to the contracting officer depends upon whether the claims derive from common or related operative facts. *Lockheed Martin Aircraft Center,* ASBCA No. 55164, 07-1 BCA ¶ 33,472 at 165,933; *Contel Advanced Sys., Inc.*, ASBCA No. 49073, 02-1 BCA ¶ 31,809 at 157,149; *Trepte Const. Co*., ASBCA No. 38555, 90- 1 BCA ¶ 22,595 at 113,385-86; *see also Placeway Const. Corp. v. United States*, 920 F.2d 903, 908 (Fed. Cir. 1990). The government's argument that appellant's wording in the briefing changes the location of the void, is misplaced. We examine appellant's correspondence and briefing to determine whether appellant's facts as submitted establish a "clear and unequivocal statement that gives the contracting officer adequate notice of the basis and amount of the claim." *Contract Cleaning Maintenance, Inc. v. United States*, 811 F.2d 586, 592 (Fed. Cir. 1987). The correspondence that leads to appellant's REA advises that it encountered a changed condition that included a void in the general area of the TRS. It referenced "a large void under the structure," "east and west sides of the existing structure," and "void area where the water had been rushing in on the SW corner of the east TRS" (R4, tab 31 at GOV000916; *see also* R4, tab 255). Target's July 12, 2011, communication with Boland continued in its explanation of the claim stating "voids present under the culvert," void "on the east and west side of the existing structures," and "void area where the water had been rushing" (R4, tab 32). It is abundantly clear that the appellant was advancing a differing site condition claim that included appellant's contention that an unexpected void around the TRS was discovered during performance. When new or modified allegations presented do not change the essential nature of or operative facts of the contractor's claim, it is not tantamount to a new claim. *Lockheed Martin Librascope Corp*., ASBCA No. 50508, 00-1 BCA ¶ 30,635 at 151,249.

located just outside both sides of the existing box culvert and leading straight to the areas where both the east and west TRS structures were to be constructed; all visible during the site visit (finding 43, 44). "It is well-settled that a contractor is charged with knowledge of the conditions that a pre-bid site visit would have revealed." *H.B. Mac, Inc.*, 153 F.3d at 1346. Both representatives of Boland and Target attended the site visit, and as reasonably prudent contractors should have been alerted to the presence of the timber piles and the potential impact on driving conditions in the work area (finding 44-45). *See H.B. Mac, Inc.*, 153 F.3d at 1346 (finding that a pre-bid site visit would have revealed geologic features indicating variable subsurface conditions, such as proximity of the site to the ocean and nearby streams).

Appellant's allegation that a void was not foreseeable is equally unsupported (finding 89). There was no testimony addressing appellant's interpretation of the contract documents pre-bid. Appellant instead relies on the fact that the contract did not identify any voids. The limited testimony that was available from appellant's expert was unreliable because Mr. Desai was unfamiliar with the soils of Southeast Louisiana. Accordingly, we found Mr. Desai's testimony lacking in credibility, and disregard his testimony concerning voids. (Finding 132) Conversely, USACE presented unrebutted testimony from Mr. Rachel indicating that a reasonably prudent contractor would have foreseen the possibility of the void. Mr. Rachel, who was admitted by the Board as an expert in the field of geotechnical engineering (finding 133), testified that near-surface soils in southeast Louisiana are predominantly clays, which tend to shrink or settle, meaning that when water leaves the pores within, the soil mass pores tend to shrink (finding 140). He also testified that voids can thus often be found below pile-founded structures in southeast Louisiana and opined that any reasonable geotechnical engineer practicing in southeast Louisiana would foresee and expect a void to exist below a pile-founded structure because of soil sediment, shrinkage, and subsidence (findings 141-42).[6] Similarly, Dr. Campbell, who was admitted by the Board as an expert in the field of structural engineering (finding 148), testified that as a structural engineer, she would have consulted with a geotechnical engineer on a project such as this about issues related to soil conditions and properties, such as the angle of friction and cohesion (finding 158). And while Mr. Desai testified that he saw no indication of a likely void based on his review of USACE's soil data, Mr. Rachel testified that it would not be reasonable to rely upon the information from

[6] Dr. Traughber is a geotechnical engineer retained by Target in May of 2011, to review the difficulties encountered during the construction of the TRS. While Dr. Traughber did not testify and was not qualified as an expert in this proceeding, his report was included in the Rule 4 file. (finding 111). He stated that most engineers, including himself, would have anticipated a void under the slab, ". . .particularly with the sandy beach deposits and the absence of any cutoff wall beneath the concrete culvert . . ." (R4, tab 37 at 1).

soil boring 8-C to conclude that a void was not present under the existing box culvert structure because a void would not have been captured in a soil boring (finding 145).

Appellant has simply not proven that the presence of voids,[7] whether under the culvert slab or under the TRS, were unforeseeable. We determine that both the voids and the difficult driving conditions caused by the presence of timber piles were both reasonably foreseeable. Accordingly, appellant's arguments to the contrary are unpersuasive.

Boland Has Failed to Demonstrate That it Reasonably Relied on the Contract Documents

The third element of a Type 1 differing site conditions claim requires the contractor to establish that it reasonably relied upon its interpretation of the contract and contract-related documents. *Comtrol, Inc.*, 294 F.3d at 1362; *H.B Mac, Inc.*, 153 F.3d at 1345; *NDG Constructors*, 12-2 BCA ¶ 35,138 at 172,502. Boland contends that it reasonably interpreted and relied on the subsurface conditions indicated in the contract documents (app. br. at 14-20). USACE counters that the record is devoid of both evidence indicating how Boland and Target interpreted the contract documents and evidence establishing that Boland and Target relied on this interpretation at the time of bidding (gov't br. at 5-9).

"Reasonable reliance cannot exist where the contractor bid without having reviewed the contract documents on which it seeks to rely." *Comtrol, Inc.*, 294 F.3d at 1364. Boland offered no evidence demonstrating its review of the contract's soil-related data before bidding. No one from Boland nor Target provided any testimony about their review of the contract documents before Boland made its bid. The only evidence in the record pertaining to an interpretation of the contract's soil data came from Mr. Desai (findings 126-27). Mr. Desai testified that based on his review of the soil data provided by USACE, he saw no indication of a likely void underneath the existing box culvert (finding 127). However, Mr. Desai interpreted the contract's soil data while designing the TRS, which occurred after bidding, solicitation, and award of the contract (findings 1-2, 51-74, 126-27). Accordingly, this does not meet Boland's duty of establishing its interpretation of the contract documents at the time of bidding. *Comtrol, Inc.*, 294 F.3d at 1363-64. Furthermore, as discussed above, we held that Mr. Desai's interpretation of the soil data was not persuasive as he lacked the expertise to opine on the subject matter. USACE provided unrebutted expert testimony from Mr. Rachel that it would not be reasonable to rely upon the information from soil

[7] While the testimony leaves open the question of whether Target's continuous pumping (approximately 6 weeks) of the water that infiltrated the TRS could have caused the void, the government experts testified that the extent of the pumping may have further exacerbated any existing void (finding 113, 146).

boring 8-C to conclude that a void was not present under the existing box culvert structure because a soil boring would not have revealed a void (finding 145).

Additionally, in a sponsored appeal such as this, the prime contractor must establish some evidentiary link—shown in bidding assumptions or otherwise—from which the Board can conclude that its reliance was shared with the subcontractor. *Clearwater Constructors, Inc.*, ASBCA No. 45712, 96-2 BCA ¶ 28,495 at 142,292. While Boland bid $1,161,000 to perform "Modifications to St. Charles Pump Station Culvert" (finding 6), Target only bid $276,925 to perform the same work (finding 50). The disparity between these bids indicates that Target and Boland did not have the same interpretation of the contract documents, and as a result, "an essential element of appellant's case is missing and we cannot grant recovery." *Clearwater Constructors, Inc.*, 96-2 BCA ¶ 28,495 at 142,292 (citing *Peter Kiewit Sons Co./J.F. Shea Co. (Joint Venture)*, ENG BCA Nos. 5086, 5097, 5147, 86-2 BCA ¶18,992 at 95,912). Thus, we find that Boland has failed to demonstrate that it reasonably relied upon its interpretation of the contract documents.

Boland Has Failed to Demonstrate That its Damages Were Caused by the Alleged Differing Site Conditions

The fourth and final element of a Type 1 differing site conditions claim requires the contractor to demonstrate that it was damaged as a result of the material variation between expected and encountered conditions. *Comtrol, Inc.*, 294 F.3d at 1362; *H.B Mac, Inc.*, 153 F.3d at 1345; *NDG Constructors*, 12-2 BCA ¶ 35,138 at 172,502. Boland alleges that its damages were solely attributable to materially different subsurface conditions it encountered (app. br. at 20-22). However, a contractor cannot recover under the theory of a differing site condition when the contractor itself is responsible for the damages it incurred; it must establish that its damages were caused by the material deviation between expected and encountered conditions. *See Comtrol, Inc.*, 294 F.3d at 1362; *H.B Mac, Inc.*, 153 F.3d at 1345; *NDG Constructors*, 12- 2 BCA ¶ 35,138 at 172,502. We determine that the flooding of the TRS was caused by Boland and Target's failure to properly design and construct the TRS.

Boland contends that the concrete plug's purpose was not to hold back water, that the plug was a permanent feature of the TRS and USACE approved of Mr. Desai's design drawings, and that "there is a conspicuous lack of evidence that the 'plug' is the source of the water intrusion in the TRS" (app. br. at 9).[8] We find these arguments to

[8] Mr. Desai claims that the concrete slab was not part of his design responsibility because it would become part of the permanent structure. We find that Mr. Desai's opinion that the concrete plug was permanent and therefore not within his design responsibilities to be unreasonable. The sheet piles just below the concrete plug were also permanent, yet Mr. Desai believed them to be part

be unpersuasive. There is ample evidence that Target failed to follow the construction sequence set forth in Mr. Desai's design, specifically, sequence no. 6. "Seal gap between the existing culvert wall sheet pile and bottom of the foundation as per detail 3 and 5. Provide dewatering as needed" (finding 71) (original capitalized). During construction, appellant was reminded by the government on several occasions to seal the gap after the sheet piles were cut, i.e., "grout in between the sheets and box culvert" (finding 86; *see also* finding 98). Target's Regional Manager, Mr. Riggs, admitted that the construction sequence was not followed, and that Target did not place the concrete plug as indicated on the drawing (findings 114-15, 118-19). On or about April 22, 2011, Mr. Desai performed a visual inspection of the TRS, providing his opinion that installation was in accordance with his plans and further noted that the work inside the TRS could begin. (finding 82). He made no mention to the government of the fact that Target failed to follow the construction sequence as set out in his design drawings. On April 29, 2011, water began to infiltrate the TRS on the east side ("the [corner] where the lake meets the box culvert") (finding 88). The report indicated that the water entered the TRS in between the sheet pile and the box culvert (finding 89). When the government inspector asked whether grout was installed between the sheet piles & box culvert as provided for in the drawings, there was no notable response provided from either the Target employees or Mr. Dan Boland. The government report did note that the USACE Inspector's visual inspection revealed that the area between the sheet pile and the box culvert had no evidence of concrete (*id.*).

Soon after the finger pointing began between Target and Boland, Target asserted that the decision not to follow the approved drawings was made by Mr. Boland, who directed Target not to place the concrete as identified in the drawing, but instead wait for the concrete pour to coincide with the time of the footing pour (findings 102, 104-05, 108, 115, 118). Boland responded claiming that the direction to not place the concrete plug came from Target's superintendent (finding 119).[9] Even their own expert, Mr. Desai asserted in his November 21, 2011 communication that Target had not followed proper construction processes necessary to prevent the TRS from flooding (finding 116). Similarly, a review performed by Dr. Traughber during

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of his design (tr. 1/95). Under the terms of the contract, there is no question that responsibility for the design and construction of the TRS lay with appellant. Appellant hired Mr. Desai to design the TRS structure, which included the "concrete plug" (findings 7-8, 11-12, 150-51, 154).

[9] Mr. Riggs was of the opinion that the concrete plug as identified in construction sequence no. 6 would not have prevented the intrusion of water, even if it was installed as required. Relying instead on the fact that, once the concrete was placed after-the-fact, the water continued to flow. As described by the government expert, placing the concrete plug after the fact when water was flowing, prevented the concrete from setting (finding 120).

performance recognized that the concrete plug had not been installed before the flooding occurred (findings 111-12).

Dr. Campbell provided unrebutted expert testimony that voids do not increase water pressure, but simply allow water to flow through the soil. Existing pressures are determined by water differential and are the same whether or not voids are present. (Finding 155) In other words, a void may increase water flow, but it does not change the pressure (*id.*). According to Dr. Campbell's testimony, a properly constructed plug would have been sufficient to resist the uplift pressure caused by water below the TRS (findings 151, 153). She also testified that the plug "acted as the positive connection between the sheet pile, which was resisting water below the ground, and now the existing culvert, which was resisting water above the ground. So the only way to make a continuous line of protection there was to install that plug" (finding 154). Similarly, Mr. Rachel testified that if the concrete plug were to be removed after work on the box culvert was complete, "water would flow into the TRS, or could flow into the TRS" (finding 137) and if the plug had been properly designed and installed, water would not have been able to enter the TRS via a void (finding 147). And while USACE eventually approved Target's TRS design, the contract's Submittal Procedures provided:

> The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work.

(Finding 26) Likewise, Instruction 10 of the submittal register included in the contract stipulated:

> 10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Finding 27)

Step 6 of the construction sequence to install the plug in the TRS was to "seal [the] gap between the culvert wall, sheet pile, and the bottom of the foundation" (finding 130). The government expert, Mr. Rachel agreed that the design called for the

contractor to install the concrete plug between the existing box culvert and the new sheet pile (finding 137). While Boland and Target attempt to deflect responsibility for not installing the concrete plug before the water infiltration into the TRS occurred, we need only rely on appellant's communication to settle the question! The fact remains that at the time of the flooding, the plug had not been installed (findings 99, 102, 108, 115-16, 118-19, 130, 139). It is obvious from the evidence that the failure to follow the construction drawings, whether caused by Boland or Target, resulted in the water infiltration into the southwest corner of the east TRS. (findings 88-89) Accordingly, we agree with USACE's determination that the flooding was caused by Target's failure to install the concrete plug between the existing box culvert foundation and the sheet pile (findings 104, 107). And even if Mr. Fegert's theory that the flooding was caused by the sheet piles not having been fully driven was found to be true (findings 93, 108, 110), Boland does not allege that this was in any way attributable to differing site conditions.

Regarding the timber piles, Boland does not allege that their presence caused the TRS to flood (finding 123). Instead, Boland claims that the timber piles "made driving conditions much more difficult" for Target and "made the TRS wall more difficult to keep [] square and plumb and required whole sections of the wall to be removed to facilitate installation" (app. br. at 11-12; findings 121-22). Boland cites only to its REA and claim letters and provides no contemporaneous construction documents to support this claim (findings 121-23). In fact, contemporaneous documentation in the record indicates that Target itself was responsible for its difficulties with driving the TRS sheet piles. For example, USACE's QAR for March 22, 2011, observed that the sheet piles for the TRS "were not per approved dwg" and that Target would thus need to "pull the sheet piles and drive them in the correct locations" (finding 76). Similarly, Boland's QCR for March 25, 2011 stated that "[t]he layout is being revised in the field to correctly match the cofferdam approved plans" (finding 77). Boland's QCR for March 26, 2011 indicated that Target had "again" hit the footing of the culvert wall while driving sheet piles (finding 78). Boland had even alerted Target to the issue at a meeting held on April 5, 2011, advising Target to take more care when laying out and driving the sheet pile (finding 79). Therefore, we find that Target's "difficult" driving conditions were not attributable to the timber piles.

Elements of a Defective Specification Claim

The *Spearin* doctrine provides that "if the contractor is bound to build according to plans and specifications prepared by the [government], the contractor will not be responsible for the consequences of defects in the plans and specifications." *United States v. Spearin*, 248 U.S. 132, 136 (1918); *KiewitPhelps*, ASBCA No. 61184, 23-1 BCA ¶ 38,254 at 185,764-65. Accordingly, the government's detailed design specifications contain an implied warranty that, if followed, they will produce a

satisfactory result. *Spearin*, 248 U.S. at 136-37; *Stuyvesant Dredging Co. v. United States*, 834 F.2d 1576, 1582 (Fed. Cir. 1987); *KiewitPhelps*, 23-1 BCA ¶ 38,254 at 185,765. In other words, when a contractor's adherence to the government's detailed specifications results in an unsatisfactory performance, the design is considered defective, and the government is in breach of this implied warranty. *Id.*; *see also Essex Electro Eng'rs, Inc. v. Danzig*, 224 F.3d 1283, 1289 (Fed. Cir. 2000). When the government breaches this warranty, "the contractor is entitled to recover all of the costs proximately flowing from the breach." *Essex Electro*, 224 F.3d at 1289. The contractor has the burden of proving that the government's specifications were defective by establishing a causal link between the alleged design defect and the resulting damages. *KiewitPhelps*, 23-1 BCA ¶ 38,254 at 185,765. If the contractor is successful, the burden shifts to the government to demonstrate that the damages were caused by the contractor's negligence or defective workmanship. *Id.*

Specifications provided by the government fall into either of two categories—design specifications or performance specifications. *See KiewitPhelps*, 23-1 BCA ¶ 38,254 at 185,765. Design specifications explicitly state how the contract is to be performed and permit no deviations. *Id.*; *Stuyvesant*, 834 F.2d at 1582. Performance specifications, on the other hand, specify the results to be obtained but leave the method of achieving those results to the contractor's discretion. *Stuyvesant*, 834 F.2d at 1582; *KiewitPhelps*, 23-1 BCA ¶ 38,254 at 185,765. The government's implied warranty that its specifications are free from design defects applies only to design specifications; it "does not accompany performance specifications that merely set forth an objective without specifying the method of obtaining the objective." *KiewitPhelps*, 23-1 BCA ¶ 38,254 at 185,765 (citing *White v. Edsall Constr. Co.*, 296 F.3d 1081, 1084 (Fed. Cir. 2002)).

Boland Has Failed to Demonstrate the Requirements of a Defective Specifications Claim Under the Spearin *Doctrine*

Boland alleges that USACE's specifications for the project were defective and that USACE thus breached its implied warranty under *Spearin* (app. br. at 23-27). Specifically, Boland asserts that the specifications failed to indicate the presence of the void and the timber piles, and that the contract documents contained erroneous elevations and depths for the existing box culvert (*id.* at 23). Again, we disagree.

We find that the specifications were performance specifications, and thus, *Spearin* is inapplicable. *White v. Edsall Constr. Co.*, 296 F.3d 1081, 1084; *KiewitPhelps*, 23-1 BCA ¶ 38,254 at 185,765. Boland was responsible for designing all elements of the TRS, including the concrete plug (findings 7-9), in a manner capable of maintaining an elevation of +6 feet of water from Lake Pontchartrain and a minimum tip elevation of the sheet piling of -45 feet (finding 12). The TRS specifications provided:

> *This work shall consist of designing,* furnishing, installing, maintaining and subsequently removing all temporary retaining structures required to complete this project. *The Contractor shall be solely responsible for the design,* layout, construction, maintenance and subsequent removal and disposal of all elements of the temporary retaining structures.

(Finding 8) (emphasis added) Since the TRS specifications specified the results USACE sought to achieve but left discretion of how to design the TRS to Boland, they were performance specifications, not design specifications, and thus not subject to USACE's implied warranty under *Spearin*. *White v. Edsall Constr. Co.*, 296 F.3d 1081, 1084; *KiewitPhelps*, 23-1 BCA ¶ 38,254 at 185,765.

Even assuming *arguendo* that the TRS specifications were design specifications, however, we still find that Boland has failed to demonstrate a causal link between the alleged defects in the specifications and its damages. As discussed in detail above, we have found that the flooding of the TRS was caused by Target's failure to "seal [the] gap between the . . . culvert wall, sheet pile, and bottom of the foundation" as required by the TRS contract drawings and step 6 of Mr. Desai's design sequence (finding 71; *see also* findings 20, 116, 130) (original capitalized). We have also found that Target's "difficult" driving conditions were attributable to Target's failure to drive the sheet piles properly, not the timber piles. Furthermore, the contract alerted Boland to the possibility of voids, timber piles, and other similar hazards on the project site (findings 13, 31). Accordingly, Boland has failed to establish that its damages were caused by defects in USACE's specifications.

Having found that the water intrusion was the direct result of appellant's actions, we do not need to consider any of its other arguments.

CONCLUSION

For the foregoing reasons, the appeal is denied.

Dated: March 6, 2025

STEPHANIE CATES-HARMAN
Administrative Judge
Armed Services Board
of Contract Appeals

I concur

OWEN C. WILSON
Administrative Judge
Acting Chairman
Armed Services Board
of Contract Appeals

I concur

MICHAEL N. O'CONNELL
Administrative Judge
Vice Chairman
Armed Services Board
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA No. 60498, Appeal of David Boland, Inc., rendered in conformance with the Board's Charter.

Dated: March 6, 2025

PAULLA K. GATES-LEWIS
Recorder, Armed Services
Board of Contract Appeals