



Agenda Item No. (3)

To: Building and Operating Committee/Committee of the Whole
Meeting of March 23, 2023

From: John R. Eberle, Deputy District Engineer
Ewa Z. Bauer-Furbush, District Engineer
Denis J. Mulligan, General Manager

Subject: **APPROVE ACTIONS RELATIVE TO THE GOLDEN GATE BRIDGE
PHYSICAL SUICIDE DETERRENT SYSTEM PROJECT**

Recommendation

The Building and Operating Committee recommends that the Board of Directors approve the following actions relative to the *Golden Gate Bridge Physical Suicide Deterrent System Project* (Project #1526):

1. Authorize execution of the Fifth Amendment to Professional Services Agreement (PSA) No. 2018-B-082, *Temporary Structures Engineering Advisor Support Services for the Construction of the Golden Gate Bridge Physical Suicide Deterrent and Traveler Systems*, with TJA Engineering, Inc., Livermore, CA, in an amount not-to-exceed \$1,200,000, for continuation of engineering support services during construction of Project #1526;
2. Authorize execution of the Third Amendment to Agreement No. 16R350000, *Construction Zone Enhanced Enforcement Program (COZEEP) Services*, with the Department of California Highway Patrol, in an amount not-to-exceed \$1,280,000, for continuation of construction zone enhanced enforcement services; and,
3. Authorize an increase in the amount of \$2,480,000 in the FY 2022/23 Bridge Division Capital Budget for Project #1526, to be financed with District reserves, for a revised total Project #1526 budget of \$217,232,868.

This matter will be presented to the Finance-Auditing Committee at its March 23, 2023, meeting for concurrence, and to the Board of Directors at its March 24, 2023, meeting for appropriate action.

Summary

At its December 16, 2016, meeting, the Board of Directors, by Resolution No. 2016-087, authorized the award of construction Contract No. 2016-B-01, *Golden Gate Bridge Physical Suicide Deterrent System and Wind Retrofit Projects*, to Shimmick Construction Company, Inc./Danny's Construction Company LLC, a Joint Venture (Contractor).

Project #1526, *Golden Gate Bridge Suicide Deterrent System Construction* involves fabrication and installation on the Golden Gate Bridge (Bridge) of a horizontal stainless steel net supported by cantilevered steel brackets along the west and east sides of four Golden Gate Bridge structures: the South Approach Viaduct, the Fort Point Arch, the Suspension Bridge, and the North Approach Viaduct, and construction of a tall vertical railing at the North Anchorage Housing. The net and cantilevered steel brackets will be located approximately twenty feet below the sidewalk and extend out about twenty feet. Because the installation of the Net System on the Suspension Bridge will block operations of the existing Suspension Bridge maintenance travelers, the Project includes replacement of these travelers with new travelers that are configured to avoid interference with the Net System. The travelers will be located underneath, between and on the sides of the Suspension Bridge stiffening trusses.

Project #1526 is mostly funded with monies from the Federal Highway Administration (FHWA). Accordingly, the Golden Gate Bridge, Highway and Transportation District (District) follows the rules and procedures set forth in the California Department of Transportation (Caltrans) Local Assistance Procedures Manual (LAPM) for federally assisted projects. In conformance with the LAPM, the District has developed a Construction Contract Administration Plan for the construction of the Project. According to the Plan, the District is responsible for administration and management of the Project #1526 construction. This work is performed by the Engineering Department staff with the assistance of consultants with expertise in various aspects of construction administration and engineering.

As previously reported to the Committee, the Contractor has not progressed the work as required by the contract and has informed the District that it will not complete the installation of the majority of the physical suicide deterrent system until the end of 2023 and will not complete the remaining work until mid-2026. As a result of the projected multi-year delay in construction completion, Engineering staff and consultant support services costs will increase.

Of immediate concern is the budget for PSA No. 2018-B-082, *Temporary Structures Engineering Advisor Support Services for the Construction of the Golden Gate Bridge Physical Suicide Deterrent and Traveler Systems*, with TJA Engineering, Inc., and the budget for Agreement No. 16R350000, *Construction Zone Enhanced Enforcement Program (COZEEP) Services*, with the Department of California Highway Patrol (CHP).

Additional Temporary Structures Engineering Advisor Support Services Budget

To access the work areas where the existing travelers and traveler rails will be removed and the Net System and the new travelers, traveler rails and all other new traveler system components will be installed, the Contractor must design, fabricate and install on the Bridge temporary work access platforms, which support workers, equipment and materials required to carry on these construction operations. In addition to designing such access platforms, the Contractor is also required to verify, by calculations, the structural integrity and capacity of the roadway and sidewalk decks and any other portions of the existing Bridge structures that carry construction loads imposed by the construction operations during the installation of the Net System, the removal of existing travelers, and the installation of new travelers. If found to be necessary, the Contractor is also required to design temporary supports and bracing to strengthen the bridge elements that support the construction loads.

Due to the specialized nature of various temporary structures and supports and their attachment to the existing Golden Gate Bridge structures and the importance of the Contractor's proper engineering evaluation of the construction loads imposed on the Bridge structures, the District required the services of an engineering firm with expertise in the evaluation of temporary structures and supports used during construction of major bridge retrofits and in the evaluation of existing steel bridges, and with knowledge of the Golden Gate Bridge, to provide an independent "second opinion" review of the Contractor's submittals related to the work access systems and other temporary structures required for the construction of the Suicide Deterrent Net System and travelers.

By Resolution No. 2018-066, the Board of Directors authorized an award of PSA No. 2018-B-082, *Temporary Structures Engineering Advisor Support Services for the Construction of the Golden Gate Bridge Physical Suicide Deterrent and Traveler Systems*, to TJA Engineering, Inc.

The scope of services consists, in general, of:

- reviewing the Contractor's requests for information (RFI) and assisting in commenting on and preparing responses to Contractor's RFIs related to the temporary structures and construction loads;
- reviewing and providing comments, advice and recommendations on the Contractor's design and work plans for the temporary structures;
- reviewing and providing comments, advice and recommendations on the Contractor's engineering evaluations, by calculations, of the structural integrity and capacity of the roadway and sidewalk decks and any other portions of the existing Bridge structures that will carry construction loads imposed by the Contractor's operations, including the temporary structures, during the installation of the Net System, the removal of the existing travelers, and the installation of new travelers;
- reviewing and providing comments, advice and recommendations on the Contractor's design of the temporary supports and bracing, if required, to provide sufficient capacity of the roadway and sidewalk decks and supporting structures for the additional loads imposed by the Contractor's operations; and
- participating in meetings with the District and Contractor.

The original PSA price was established based on the submittal listing included in the original Contractor's construction schedule. Since then, the Contractor has significantly increased the number of work plans, which evaluate the impact of construction loads on the structural integrity of the Bridge, and has significantly increased the number of access design submittals to accommodate different structure configurations present along the Bridge trusses. In addition, much higher number of resubmittals have been required to achieve the correct submittal content. Consequently, the review effort on the part of TJA Engineering has increased substantially and necessitated execution of amendments to the PSA as presented in Table 2 included in this staff report.

To date, the Contractor has developed most of its work plans and temporary access system designs for the net system installation on the South and North Approach Viaducts and the Fort Point Arch; its temporary access systems for the net system installation, the traveler rail replacement and some of the original maintenance traveler removals in Spans 1, 2 and 3 and at the Main Towers of the Suspension Bridge. Still, there are a substantial number of work plans and access designs that are

outstanding for the construction work involving the net system installation and the traveler rail replacement in Span 4 of the Suspension Bridge; removal of the remaining original maintenance travelers from the Suspension Bridge; installation of the new maintenance travelers on the Suspension Bridge; and the removal of the Contractor's access systems at the completion of work.

Staff has reviewed the Contractor's list of remaining submissions and the Contractor's current schedule for delivering these submissions and has determined that the Fifth Amendment to the PSA with TJA Engineering is necessary to finance the extension of the *Temporary Structures Engineering Advisor Support Services* through at least December 2024, which would involve the scope of work listed in the PSA as presented above. The current authorized PSA budget is estimated to cover the services through March 2023.

Engineering staff requested, and TJA Engineering has provided, a cost proposal in the amount of \$1,200,000 for the requested additional scope of engineering support services. Engineering staff has reviewed the proposal and found it to be reasonable in terms of TJA Engineering's budgeted labor hours to perform the additional scope of services requested by the District and it was consistent with TJA Engineering's audited labor and overhead billing rates.

The District's Disadvantaged Business Enterprise (DBE) Program Administrator has verified that TJA Engineering is no longer a certified DBE firm. However, the work under the Fifth Amendment, and any work hereafter, may be counted at 100% DBE participation towards the contract goal, because TJA Engineering was a DBE at the time the contract was initially awarded. TJA Engineering will be compensated for actual time expended and expenses incurred, plus a fixed fee, for the not-to-exceed authorized amount.

Additional Construction Zone Enhanced Enforcement Program Services Budget

Due to the lack of land and staging areas underneath the Bridge, the Contractor must utilize the roadway to bring most of the materials and equipment to the work areas. To minimize impacts to the traveling public, lane closures are specified to be implemented at night during non-peak travel hours. The lane closures include closing up to three lanes of traffic to provide sufficient work areas on the roadway to safely allow equipment and personnel to perform the work.

Caltrans and FHWA recommend that construction projects with lane closures utilize construction zone enhanced enforcement program to improve project safety through the use of supplemental Department of California Highway Patrol units to assist in the management of traffic passing through the construction zone. COZEEP involves the presence of the California Highway Patrol within the construction zone to serve as a reminder to the motoring public to slow down, observe construction zone signs, and use care while driving through the work zone.

By Resolution No. 2017-003, the Board of Directors authorized entering into Agreement No. 16R350000, *Construction Zone Enhanced Enforcement Program (COZEEP) Services*, with the Department of California Highway Patrol (CHP), in the amount of \$2,000,000 for the Project's construction zone enhanced enforcement program during traffic lane closures.

The scope of the services consists of, in general:

- providing CHP personnel and vehicles to assist the Contractor with installing and removing traffic control devices and equipment for night time lane closures;

- providing enhanced traffic monitoring through the construction zone; and
- providing a visual presence, “Fixed Posts” in or about the Contractor’s lane closure.

The significantly extended construction time necessitates extension, through the Third Amendment to Agreement No. 16R350000, of the CHP’s COZEEP services during the nighttime traffic lane closures to facilitate the construction operations. There is enough budget to continue with these services through May 2023. Staff has performed an estimate and determined that an amount of \$1,280,000 is required to continue financing COZEEP services through approximately December 2025. CHP will be compensated for actual time expended and expenses incurred.

Engineering staff recommends that the Building and Operating Committee recommend that the Board of Directors authorize execution of the Fifth Amendment to PSA No. 2018-B-082 *Temporary Structures Engineering Advisor Support Services for the Construction of the Golden Gate Bridge Physical Suicide Deterrent and Traveler Systems*, to TJA Engineering, Inc., in the not-to-exceed amount of \$1,200,000, for continuation of temporary structures engineering support services; and, authorize entering into the Third Amendment to Agreement No. 16R350000, *Construction Zone Enhanced Enforcement Program Services*, with the Department of California Highway Patrol, in the amount of \$1,280,000 for the continuation of construction zone enhanced enforcement services as presented in this staff report.

As was previously reported to the Committee, by November 2024, the additional time of construction was estimated to increase the cost of contract administration and construction engineering efforts of Engineering staff and consultants as well as additional California Highway Patrol traffic control support services and the National Park Service permit fees by \$25,488,717. If the action recommended in this staff report is approved by the Board of Directors, the total cost of increases to some of these contracts will be \$13,170,000. Engineering staff will continue monitoring the progress of the construction work and will make an assessment of and will report to the Committee at a later date any additional budget amounts necessary to finance contract administration and construction engineering efforts through the construction completion.

Fiscal Impact

Project #1526, *Golden Gate Bridge Suicide Deterrent System Construction*, is approved in the FY 2022/23 Bridge Division Capital Budget at a total cost of \$215,032,868. As shown in Table 1 below, the budget for Project #1526 includes an amount of \$55,818,957 for Engineering staff time and consulting services related to the construction administration and construction engineering, and an amount of \$3,994,868 for the Supplemental Funds used to pay, in part, for the COZEEP services.

The proposed Fifth Amendment to PSA No. 2018-B-082 with TJA Engineering in the amount of \$1,200,000 would increase the total amount assigned to the Construction Administration and Engineering Budget Sub-Element to \$57,018,957, and the proposed Third Amendment to Agreement No. 16R350000 with CHP in the amount of \$1,280,000 would increase the total amount assigned to the Supplemental Funds Budget Sub-Element to \$5,274,868, for a total increase in the FY 2022/23 Bridge Division Capital Budget for Project #1526, funded with District reserves, of \$2,480,000, for a revised total Project budget of \$217,512,868.

	PSA 2011-B-2 Resolution No. 2016-089				
3	Environmental Compliance PSA 2017-B-09 Resolution No. 2017-002	\$903,152			
4	Interim Construction Scheduling and Claim Support PSA 2017-B-17 GM Report	\$59,600			
5	Construction Scheduling and Claim Support PSA 2018-B-07 Resolution No. 2017-105	\$2,109,240			
	Amendment 1 Under GM authority	\$210,924			
	Resolution No. 2021-044	\$925,000			
	Amendment 3 additional amount Resolution No. 2022-078	\$1,542,000			
	Total PSA	\$4,787,164			
6	Steel Fabrication Shop Inspection PSA 2018-B-06 Resolution No. 2017-115, including Amendment 1	\$1,395,000			
	Amendment 1 Under GM authority	\$139,500			
	Amendment 2, including contingency Resolution No. 2020-027	\$198,000			
	Total PSA	\$1,732,500			
7	Suicide Deterrent Net System Fabrication Shop Inspection PSA 2018-B-075 Resolution No. 2018-059	\$400,000			

	Amendment 1 (time only)	\$0			
	Amendment 2 Under GM authority	\$40,000			
	Amendment 3, 4 and 5 Resolution No. 2021-013	\$179,000			
	Amendment 6 Resolution No. 2022-016	\$134,000			
	Amendment 7 Resolution No. 2023-017	\$94,000			
	Total PSA	\$847,000			
8	Temporary Structures Engineering Advisor Support Services PSA 2018-B-082 Resolution No. 2018-066	\$870,500			
	Amendment 1 Under GM authority	\$87,050			
	Amendment 2 Resolution No. 2020-082	\$1,340,000			
	Amendment 3 (time only)	\$0			
	Amendment 4 Under GM authority	\$134,000			
	<i>Proposed additional amount</i>	<u>\$1,200,000</u>			
	<i>Total proposed amount</i>	<u>\$3,631,550</u>			
9	Field Inspection Support Services PSA 2018-B- 084 Resolution No. 2018-080	\$3,700,000			

	Amendment 1 Under GM authority	\$370,000			
	Resolution No. 2021-044	\$1,715,000			
	Amendment 3 additional amount	\$2,127,000			
	Resolution No. 2022-078				
	Total PSA proposed amount	\$7,912,000			
10	Maintenance Traveler System Fabrication Shop Inspection PSA 2019-B- 007	\$704,000			
	Resolution No. 2019-048				
	PSA rescinded	(\$704,000)			
11	Maintenance Traveler System Fabrication Shop Inspection PSA 2021-B- 073	\$2,860,000			
	Resolution No. 2022-016				
SUBTOTAL CONSTR. ADMIN & ENG., INCLUDING THE PROPOSED BUDGET INCREASE		<u>\$57,018,957</u>	TOTAL AUTH. AMOUNT: \$55,818,957	PROPOSED INCREASE: \$1,200,000	PROPOSED REVISED AMOUNT: <u>\$57,018,957</u>
TOTAL PROJECT #1526 BUDGET			AUTH. BUDGET \$215,032,868	PROPOSED INCREASE: \$2,480,000	PROPOSED REVISED BUDGET: \$217,512,868

TABLE 2: The history of PSA No. 2018-B-082

ACTION	AMOUNT
Award PSA No. 2018-B-082, Temporary Structures Engineering Advisor Support Services for the Construction of the Golden Gate Bridge Physical Suicide Deterrent and Traveler Systems; Resolution No. 2018-066	\$870,492.67
First Amendment- additional engineering support services	\$87,046.14 (from contingency)
Second Amendment, additional engineering support and claim support services Resolution No. 2020-082	\$1,339,481.41
Third Amendment – time only	\$0
Fourth Amendment, additional engineering support and claim support services	\$134,000 (from contingency)
<i>Proposed Fifth Amendment, additional engineering support and claim support services</i>	<u><i>\$1,200,000</i></u>
<i>PROPOSED TOTAL PSA AMOUNT</i>	<i>\$3,631,380.22</i>

TABLE 3: PROJECT FUNDING - #1526, GGB Suicide Deterrent System Construction

SOURCE OF FUNDS	CURRENT AMOUNT	PROPOSED ADJUSTMENT	ADJUSTED AMOUNT
MTC-STP Funds	\$74,910,000	\$0	\$74,910,000
Caltrans HBP Funds	\$58,140,000	\$0	\$58,140,000
GGBHTD District	\$74,554,407	<u><i>\$2,480,000</i></u>	<u><i>\$77,034,407</i></u>
MHSOAC	\$7,000,000	\$0	\$7,000,000
Cell Site Revenues	\$389,736	\$0	\$389,736
Donations	\$38,725	\$0	\$38,725
TOTAL	\$215,032,868	<i>\$2,480,000</i>	<i>\$217,512,868</i>