

THIS PRINT COVERS CALENDAR ITEM NO. : 14

**SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY**

DIVISION: Central Subway

BRIEF DESCRIPTION:

Approving Amendments No. 1 and No. 4 to Contract CS-155-2, Architectural and Engineering Services for the Final Design and Construction of the Central Subway Project, with the Central Subway Design Group to increase the contract amount by \$1,010,600 for the designs to lower the Chinatown Station, and \$6,323,936 for the additional work necessary to provide engineering services through completion of Project construction, for a total amended contract amount not to exceed \$47,900,606; and requesting the Board of Supervisors' retroactive approval of Amendment No. 1 to the Contract and approval of Amendment No. 4 to the Contract.

SUMMARY:

- In 2010, the City awarded Contract CS-155-2 (Contract) to Central Subway Design Group (CSDG) to design three stations for the Central Subway Project, not to exceed \$39,949,959, for a ten-year term with a two-year extension option.
- During construction, CSDG provides engineering support services to interpret design documents, provide direction to the construction contractor, review contractor submittals, and inspect completed work.
- The Contract has been modified three times to compensate CSDG for additional work to address unexpected site conditions and design changes required by the City.
- Amendment No.1 increased the contract amount by \$1,010,600 to compensate for additional design work to lower the Chinatown Station.
- Amendment No. 4 increases the contract amount \$6,323,936 to compensate for engineering and design services needed to support stations construction for the extended Project construction period.
- Both amendments require the Board of Supervisors' approval under Charter Section 9.118(b).

ENCLOSURES:

1. SFMTAB Resolution
2. CS-155-2 Contract, Amendment No. 1
3. CS-155-2 Contract, Amendment No. 4

APPROVALS:

DATE

DIRECTOR



5/30/2018

SECRETARY



5/30/2018

ASSIGNED SFMTAB CALENDAR DATE: June 5, 2018

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PURPOSE

Approving Amendments No. 1 and No. 4 to Contract CS-155-2, Architectural and Engineering Services for the Final Design and Construction of the Central Subway Project, with the Central Subway Design Group to increase the contract amount by \$1,010,600 for the design lowering the Chinatown Station, and \$6,323,936 for additional work necessary to provide engineering services through completion of Project construction; and requesting the Board of Supervisors' retroactive approval of Amendment No. 1 to the Contract and approval of Amendment No. 4 to the Contract.

STRATEGIC GOALS AND TRANSIT FIRST POLICY PRINCIPLES

This action supports the following SFMTA Strategic Plan Goal and Objectives:

Strategic Plan Goal 3 – Improve the environment and quality of life in San Francisco

Objective 3.1: Reduce the Agency's and the transportation system's resource consumption, emissions, waste and noise.

Objective 3.2: Increase the transportation system's positive impact to the economy.

Objective 3.3: Allocate capital resources effectively.

Objective 3.4: Deliver services efficiently.

Objective 3.5: Reduce capital and operating structural deficits.

This item will support the following Transit First Policy Principles:

1. Improves the safe and efficient movement of people and goods.
2. Improves public transit as an attractive alternative to travel by private automobile.
8. Allocates transit investments to meet the demand for public transit generated by new public and private commercial and residential developments.
9. Promotes the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system.

DESCRIPTION

Contract and Contracted Services

On December 1, 2009, the SFMTA Board of Directors awarded Contract CS-155-2 (Contract) to Central Subway Design Group (CSDG) a joint venture between Parsons Brinkerhoff, Inc. (now called WSP), Michael Willis Architecture, Inc., and Kwan Henmi Architecture, Inc. (now called DLR Group), to design three underground stations for the Central Subway Project, for an amount not to exceed \$39,949,959, for a ten-year base term, and an option to extend the term an additional two years. On March 2, 2010, the Board of Supervisors approved the SFMTA's award of the Contract to CSDG.

Under the Contract, CSDG provides the following services:

1. Validate preliminary (conceptual) designs and complete final designs for the Yerba Buena/Moscone Station, Union Square/Market Street Station, and Chinatown Station.

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2. Prepare bid documents (construction designs and specifications) and provide bid support services including conforming contract drawings and specifications
3. Coordinate utility work
4. Verify construction costs and schedules
5. Review contract change order requests
6. Review and respond to contractor submittals, requests for information (RFIs), requests for substitution, and contract claims
7. Conduct site visits and observations to verify design compliance and/or assist in resolving issues
8. Update design drawings and specifications as needed to memorialize approved project changes
9. Witness and approve factory testing of manufactured equipment and materials
10. Provide on-going geotechnical investigation and engineering services
11. Provide on-going engineering and quality assurance services for the mining at Chinatown Station
12. Provide site surveying
13. Perform (and review others') cost estimates and scheduling

Items 1-3, described above, have been completed. CSDG will continue to provide the engineering services described in Items 4-13, through the completion of the stations construction. In addition, CSDG will assemble operations and maintenance manuals, and will prepare as-built contract specifications and design documents when construction is complete.

The Contract is structured on a cost reimbursement model, as are most engineering services contracts for complex projects. The parties estimated the number of hours CSDG would need to spend on various categories of work, with contract costs estimated by multiplying those hours by the hourly rates of the personnel assigned to perform the work and by an audited rate for overhead. The parties also negotiated a separate fixed fee that covers CSDG's profit and costs not covered as allowed overhead; the fixed fee is paid pro rata to hours worked with each progress payment. Design services during construction are accounted under Task 16 in the Contract, the proposed Amendment No. 4 will add approximately 30,000 hours to Task 16.

Prior Amendments to the Contract

The Contract has been modified three times to address unexpected site conditions and design changes required by the City. The three amendments increased the contract amount by \$1,626,722, for a total amended contract amount not to exceed \$41,576,670.

Amendment No. 1

On December 21, 2011, the Director of Transportation approved Amendment No. 1 to the Contract for \$1,010,600 to compensate CSDG for additional design work necessary to lower the Chinatown Station. A peer review of draft final designs of the Chinatown Station identified risks that the excavation of the station might impact the Mandarin Tower building in Chinatown. To avoid those potential impacts, the SFMTA and CSDG agreed to dig the Chinatown Station 25 feet deeper.

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Amendment No. 1 should have been presented to the SFMTA Board and then to the Board of Supervisors for their approval, but was not due to staff misunderstanding of the Director of Transportation's contract approval authority.

Amendment No. 2

On June 28, 2016, the Director of Transportation approved Amendment No. 2 to the Contract for \$484,053 to compensate CSDG for additional work in the design of the plaza above the Chinatown Station.

Amendment No. 3

On November 17, 2016, the Director of Transportation approved Amendment No. 3 to the Contract for \$132,069 to compensate CSDG for additional design work required by the relocation of the tunnel boring machine retrieval shaft in North Beach.

Delay of Project Construction Requires Extending Construction Support Services

Tutor Perini Corporation (TPC), under Contract 1300, is the construction contractor for the Central Subway's stations, trackway, and control systems. Contract 1300 required that the work under that contract be substantially complete by February 18, 2018. But the work under Contract 1300 has been delayed by 15 months, due in part to unexpected site conditions, and contractor delays. Project staff currently anticipate that TPC will bring the work under Contract 1300 to substantial completion by May 31, 2019. The current projected revenue service date has shifted from January 2019 to December 2019.

Additional funding for CSDG to provide design services during construction is necessary to provide additional field engineering during the mining of Chinatown Station, and due to increases in the number of contractor requests for information (RFIs) seeking clarification of project designs and specifications and contractor change order requests (CORs). TPC has submitted approximately 3,000 RFIs to date; a large percentage of those RFIs have been unnecessary and even frivolous. TPC has also submitted approximately 1,500 contract change order requests (CORs) to date, the majority of which have been rejected as unmerited. Irrespective of whether a RFI and COR is or is not merited, however, CSDG must review and prepare a response to each RFI and COR. Due to the large number of RFI's TPC has submitted, CSDG has exceeded the number of hours allocated in the Contract for construction support services by approximately 60 percent, while the construction of the stations is only 70 percent complete. It is necessary, therefore, to increase the contract amount and hours allocated to construction support services.

The SFMTA's Contract Compliance Office has determined that CSDG has met the 30% Small Business Enterprise participation goal that the SFMTA established for the Contract.

STAKEHOLDER ENGAGEMENT

Contract Amendment No.4 extends the level of design and construction support services, and increasing the scope does not have any negative impact to the community; hence, no community

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outreach was performed.

ALTERNATIVES CONSIDERED

Disapproval of Amendment No. 1 retroactively would render that amendment void, which would likely negatively impact CSDG's willingness to continue to provide construction support engineering services to the Central Subway Project, which are necessary for the successful completion of the Project.

Disapproval of Amendment No. 4 will preclude CSDG’s participation in reviewing the remaining construction work for the Central Subway Project. It is important that CSDG, as the designers of record for the stations, continue to be retained to provide design services during construction. Loss of CSDG’s services would likely cause significant delays to the completion of the Central Subway Project, as the SFMTA would not otherwise have the expertise to respond to contractor inquiries as to stations designs and specifications.

FUNDING IMPACT

The Central Subway project is funded with Federal Transit Administration (FTA) New Starts, Federal Congestion Management & Air Quality (CMAQ), State Transportation Bond Proposition 1A and 1B, State Regional Improvement Program, State Transportation Congestion Relief Program (TCRP), and Prop K Half-Cent Local Sales Tax funds. Contract CS-155-2 Modification #4 will not increase the total project cost of \$1.578B. Existing funds will be used to pay for the additional cost. The breakdown of the funding sources and their amounts is as follows:

Source	TOTAL
5309 New Starts	\$942,200,000
CMAQ3	\$41,025,000
Prop 1A High Speed Rail Connectivity	\$61,308,000
Prop 1B- MTC	\$87,895,815
Prop 1B-SFMTA	\$219,896,185
RIP-SF/Other	\$74,248,000
TCRP	\$14,000,000
Prop K	\$137,727,000
	\$1,578,300,000

ENVIRONMENTAL REVIEW

On April 27, 2018, the SFMTA, under authority delegated by the Planning Department, determined that Amendment No. 4 to the Contract is not defined as a “project” under the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations Sections 15060(c) and 15378(b).

A copy of the CEQA determination is on file with the Secretary to the SFMTA Board of Directors and is incorporated by reference.

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OTHER APPROVALS RECEIVED OR STILL REQUIRED

The proposed Amendment No. 4 to the Contract requires approval by the Board of Supervisors under Charter Section 9.118(b), as the original contract was subject to the Board of Supervisors approval and the value of the amendment exceeds \$500,000. The Amendment No. 1 to the Contract requires retroactive approval by the Board of Supervisors under Charter Section 9.118(b), as the original contract was subject to the Board of Supervisors approval and the value of the amendment exceeded \$500,000.

The City Attorney's Office has reviewed this calendar item.

RECOMMENDATION

SFMTA staff recommends that the SFMTA Board of Directors approve Amendments No. 1 and No. 4 to Contract CS-155-2, Architectural and Engineering Services for the Final Design and Construction of the Central Subway Project, with the Central Subway Design Group to increase the contract amount by \$1,010,600 for designs to lower the Chinatown Station, and \$6,323,936 for additional work necessary to provide engineering services through completion of Project construction, for a total amended contract amount not to exceed \$47,900,606; and request the Board of Supervisors' retroactive approval of Amendment No. 1 to the Contract and approval of Amendment No. 4 to the Contract.

SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
BOARD OF DIRECTORS

RESOLUTION No. _____

WHEREAS, Design and construction of the 1.75-mile Central Subway (Central Subway Project) is Phase 2 of the Third Street Light Rail Transit Project; and,

WHEREAS, On December 1, 2009, the SFMTA Board of Directors awarded Contract CS-155-2 (Contract) to Central Subway Design Group (CSDG) to design three subway stations for the Central Subway Project, for an amount not to exceed \$39,949,959, including \$4,890,707 in optional work, for a ten-year term with an option to extend the term two years; and,

WHEREAS, On March 2, 2010, the Board of Supervisors approved the award of the Contract to CSDG; and,

WHEREAS, The Contract has been modified three times to compensate CSDG for additional work required to address unexpected site conditions and design changes required by the City. The three amendments increased the total contract amount by \$1,626,722, for a total amended contract amount not to exceed \$41,576,670; and,

WHEREAS, CSDG provides engineering support services construction to interpret design documents, answer questions and provide direction to the construction contractor, review contractor submittals, and inspect completed work; and,

WHEREAS, Construction of the Central Subway Project has been delayed 15 months beyond the original substantial completion date; and,

WHEREAS, Amendment No. 4 to the Contract provides compensation to CSDG so that the City may continue to receive CSDG's engineering and design services, which are necessary to support the construction of the Central Subway stations; and,

WHEREAS, Amendment No. 1 to the Contract provides compensation to CSDG for design work necessary to lower the Chinatown Station approximately by 25 feet to avoid impacts to the Mandarin Tower in Chinatown; and,

WHEREAS, Due to staff misunderstanding of the Director of Transportation's authority to approve contracts, Amendment No. 1 was not presented to the SFMTA Board of Directors for approval, nor to the Board of Supervisors for approval; and,

WHEREAS, With the approval of Amendments No. 1 and No. 4 to the Contract, the revised base and optional contract amounts for the final design of the Central Subway stations, construction support and other related services shall not exceed \$47,107,363 and \$793,243, respectively; and,

WHEREAS, The Central Subway Final Supplemental Environmental Impact Statement / Supplemental Environmental Impact Report (Central Subway SEIS/SEIR) evaluated the environmental impacts of the Central Subway project, including construction of the subway stations. On August 7, 2008, the San Francisco Planning Commission certified the Final SEIR (Case No. 1996.281E). On August 19, 2008 the SFMTA Board of Directors approved Resolution 08-150 adopting Central Subway Project Alternative 3B as the Locally Preferred Alternative, the CEQA Findings, Statement of Overriding Considerations, and the Mitigation Monitoring and Reporting Plan; and,

WHEREAS, The environmental review determination is on file with the SFMTA Board of Directors, and may be found in the records of the Planning Department at 1650 Mission Street in San Francisco, and is incorporated herein by reference; and,

WHEREAS, As to Amendment No. 4 to the Contract, on April 27, 2018, the SFMTA, under authority delegated by the Planning Department, determined that Amendment No. 4 to the Contract is not defined as a “project” under the California Environmental Quality Act (CEQA) pursuant Title 14 of the California Code of Regulations Sections 15060(c) and 15378(b); and,

WHEREAS, A copy of the CEQA determination regarding Amendment No. 4 to the Contract is on file with the Secretary to the SFMTA Board of Directors, and is incorporated herein by reference; now therefore be it

RESOLVED, The SFMTA Board of Directors approves retroactively Amendment No. 1 to CS-155-2, Architectural and Engineering Services for the Final Design and Construction of the Central Subway Project, with the Central Subway Design Group to increase the contract amount by \$1,010,600 to compensate CSDG for additional design work necessary to lower the Chinatown Station; and be it further

RESOLVED, The SFMTA Board of Directors requests that the Board of Supervisors retroactively approve Amendment No. 1 to CS-155-2, Architectural and Engineering Services for the Final Design and Construction of the Central Subway Project, with the Central Subway Design Group to increase the contract amount by \$1,010,600 to compensate CSDG for additional design work necessary to lower the Chinatown Station; and be it further

RESOLVED, The SFMTA Board of Directors approves Amendment No. 4 to CS-155-2, Architectural and Engineering Services for the Final Design and Construction of the Central Subway Project, with the Central Subway Design Group to increase the contract amount by \$6,323,936 for additional work necessary to provide engineering services through completion of Project construction, for a total contract amount not to exceed \$47,900,606; and be it further

RESOLVED, The SFMTA Board of Directors requests that the Board of Supervisors approves Amendment No. 4 to CS-155-2, Architectural and Engineering Services for the Final Design and Construction of the Central Subway Project, with the Central Subway Design Group to increase the contract amount by \$6,323,936 for additional work necessary to provide engineering services through completion of Project construction, for a total contract amount not to exceed \$47,900,606.

I certify that the foregoing resolution was adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of June 5, 2018.

Secretary to the Board of Directors
San Francisco Municipal Transportation Agency

CONTRACT FOR CENTRAL SUBWAY

FINAL DESIGN PACKAGE # 2

MOSCONE, UNION SQUARE & CHINATOWN
STATIONS

FIRST AMENDMENT



**First Amendment to Agreement between the City and County of San Francisco
and
the Central Subway Design Group
for Architectural and Engineering Services
for the Final Design and Construction of the
the San Francisco Municipal Transportation Agency
Central Subway Project
(Third Street Light Rail Project, Phase 2)**

**Contract No. CS-155-2
Design Package #2**

WHEREAS, The City and County of San Francisco ("City"), by and through its Municipal Transportation Agency ("SFMTA") and the Central Subway Design Group ("Consultant" or "Designer"), a joint venture between Parsons Brinckerhoff, Inc. (contracting through its subsidiary PB Americas, Inc.) and Michael Willis Architects, Inc. and Kwan Henmi Architecture and Planning, Inc., entered into Contract CS-155-2 ("the Agreement") for the final design of three subway stations for the SFMTA's Central Subway Project; and

WHEREAS, As provided in Section 8.2 of the Agreement, Consultant requested that the Agreement be modified to describe and include and provide additional compensation for certain Additional Work (identified herein) that was not part of the original Scope of Work of the Agreement; and

WHEREAS, Consultant and SFMTA subsequently negotiated this First Amendment to the Agreement; ("First Amendment");

NOW THEREFORE, the Consultant and the SFMTA agree to modify the Agreement, as set out below:

A. CONSTRUCTION OF FIRST AMENDMENT

1. Where Additional Work or additional terms to the Agreement are set out in existing text, the new or added text is indicated by underlining text, and deleted text is lined-through. Where a new section is added in its entirety, the text so indicates.
2. Unless otherwise specifically stated, the Consultant is the party responsible for performing the Work described in this First Amendment.
3. The amounts stated in this First Amendment as compensation for the Additional Work described herein is full compensation for said Additional Work, payment of which by City to Consultant shall be an accord and satisfaction of any and

all obligations by City to Consultant for said Additional Work.

4. Except as specifically provided in this First Amendment, all other terms and conditions of the Agreement remain unchanged. No provision of this First Amendment shall amend any agreement or contract other than the "Agreement between the City and County of San Francisco and the Central Subway Design Group for Architectural and Engineering Services for the Final Design and Construction of the the San Francisco Municipal Transportation Agency Central Subway Project" (Third Street Light Rail Project, Phase 2), SFMTA Contract No. CS-155-2. This First Amendment is dated for convenience as December 20, 2011.
5. Consultant hereby acknowledges and agrees that the amounts agreed for the Additional Work described in this First Amendment shall be in full accord and satisfaction of all current and prospective costs incurred in connection with Consultant's performance of said Additional Work, without limitation. Consultant releases SFMTA from all claims for which full accord and satisfaction is hereby made, as set forth above. If this modification involves the granting of an extension of time, with or without cost, Consultant hereby releases SFMTA from all claims and costs associated with such extension of time. Such costs may include, but are not limited to, costs for labor, materials, equipment, and disruption, lost productivity, escalation, delay, extended overhead, administration and extended performance time.
6. In signing this First Amendment, the signatories certify that each is authorized to execute this First Amendment and thereby bind the party he or she represents.

B. ADDITIONAL GEOTECHNICAL INVESTIGATIONS

Appendix A, Task 3.10, "Supplemental Investigations" is amended as follows:

3.10 Supplemental Investigations Services

Perform additional borings, laboratory analyses, and a total of four pump tests ~~a pump test as needed~~ to assess the anticipated ground and ground water conditions and behavior during excavation.

~~It is anticipated that up to 4~~ Two additional borings will be taken at Moscone Station area. ~~and three~~ Five borings will be taken at the Union Square/Market Street Station (UMS) area. ~~and 1~~ Three borings will be taken at Chinatown Station (CTS) area. Also a pump test will be performed at UMS Station location. The tests described above ~~is~~ will enable the Project to better assess the anticipated ground behavior and ground water condition during excavation and impact of construction of UMS station on the ground water regime in the vicinity of BART Powell Street Station.

Prepare geotechnical data report to provide as information to bidders.

A single geotechnical data report (including data from the PE phase and Design Package 1) will be prepared and included in the three construction bid packages (CP4, CP5, and CP6).

Deliverables

3.10 Supplemental Investigations Plan [NTP + 30 days]

3.20 Geotechnical Data Report (draft and final)
[Draft at 3.5 months + NTP]
[Final at the first 65% station deliverable]

3.20.1 Technical Memorandum CS155-2 Task 03.10

Supplemental Geotechnical Investigations – Additional Union Square Market Street Station Investigation Borings CS-40 & CS-41, Rev. 0, February 22, 2011

3.20.2 Technical Memorandum CS155-2 Task 03.30

Supplemental Investigations, Union Square Market Street Station Groundwater Flow Model Development and Results, Rev. 0, August 22, 2011

Task Leader: Ramin Golesorkhi

Assumptions and Exceptions:

- ~~Data from PE~~ generated by the Preliminary Engineering consultant (PE) and the supplemental geotechnical investigation program performed by Tunnels design consultant from (DP-1) will be made available to Consultant.
- A single data report will be prepared for the three stations and will include data from the PE and DP1 geotechnical investigations.
- Environmental and hazardous materials investigations are by others
- Information generated by the consultants for Tunnels design (DP1) and Stations designs (DP2) will share information and data generated by their respective geotechnical investigations. ~~DP1 and DP2 will combine this work.~~
- Includes 3.20 Geotechnical Characterization report.

Additional Compensation:

City shall pay Consultant the following amounts in full satisfaction and accord for the Additional Work described in this Section B of this First Amendment:

Task 3.10: CTS Expanded Hydraulic Testing Increase Amount: \$ 26,100.00

Task 3.10: UMS Additional Two Soil Borings Increase Amount: \$ 34,500.00

Subtotal Increase: \$ 60,600.00

C. CHINATOWN STATION LOWERING

All of the work described in this Section C is Additional Work under the Tasks listed herein:

1. Task 3.0, "Geotechnical Investigations"

Summary:

The Parties have agreed that the Chinatown Station (CTS) must be constructed approximately 25 feet lower (deeper in the ground) than originally designed under Preliminary Engineering.

As a result of the lowering of CTS, the tunnel horizon coming into and leaving CTS will be approximately 25 feet deeper than the existing CN1254 design. Upon review of the geologic information in these areas, additional geotechnical information is needed to document ground conditions below the lower station horizon.

Two additional borings (CS-42 and CS-43) are proposed to provide additional data required for the CTS station design along with additional in-situ testing and lab testing planned. No piezometers are proposed for this phase of investigation, as the added expense of installation and monitoring will not add significant value at this stage of the project. The approximate locations and objectives of the borings are summarized in the table below.

An Addendum to the Geotechnical Data Report will be prepared to document the results of the borings in conjunction with the work in DP1, present the field and laboratory data, and present boring logs. This additional information will provide the basis for updating the Geotechnical Baseline Report, and Settlement impacts on Utilities Technical Memorandum.

Consultant shall perform the following Additional Work under Task 3.0:

- a. Develop investigation plan showing a single stage of investigation, borehole locations, planned depths, insitu testing, and procedures.
- b. Update existing site-specific Health & Safety Plan for Drilling Program.
- c. Screen investigation sites for underground utilities: contact Underground Service Alert (USA) a minimum of 48 hours prior to start of field activities. In addition, employ private utility locator to check proposed investigation locations for potential buried utilities.
- d. Drill two borings (CS-42 and CS-43) to depths ranging from 120 to 160 feet below existing ground surface.

- e. Employ geologists and/or geotechnical engineers to supervise drilling, log borings, conduct insitu testing, and retrieve and transport the soil and rock samples.
- f. Perform laboratory tests on selected samples of soil and rock to assess engineering properties and physical characteristics.
- g. Prepare technical memorandum to document new borings and test data obtained from the supplemental investigations including: summary of overall geologic setting and groundwater conditions, borings logs, and field and laboratory test results.
- h. Describe the impacts that certain adverse conditions could have on the progress of the work and to nearby structures and facilities.
- i. Review the update by DP1 on the geologic interpretive profile along the tunnel alignment.
- j. Update Geotechnical Baseline Report as part of the 90% Submittal.

Consultant shall produce the following Deliverables under Task 3.0:

Technical Memorandum CS155-1 Task 17.05 and CS155-2 Task 3.40;
Supplemental Geotechnical Investigations, Additional CTS Investigation Borings
CS-42, CS-43 and CS-44, Rev. 0, April 25, 2011

2. Task 6.20 Settlement Impacts on Utilities and Buildings

Consultant shall perform the following Additional Work under Task 6.20:

- a. Revise prior utility settlement analyses to reflect change in elevation of station (platform, cross-cut and cross-over caverns) and headhouse for impacts on existing utilities.
- b. Prepare technical memorandum to reflect change in station, headhouse and tunnel elevations at CTS. Analyses will assess effects of settlement on buildings caused by lowered station configuration and lowered tunnel profile.

Consultant shall produce the following Deliverables under Task 6.20:

- Technical Memorandum – Building Settlement Impacts due to Underground Construction

3. Task 10.10 Construction Cost Estimate & Schedule Review During Design Services

Consultant shall perform the following Additional Work under Task 10.10:

Prepare and submit updates to quantity takeoff submitted at the Interim Revised 65% Design and the updated 65% Submittal to reflect the station lowering of CTS, relocation of the cross-cut cavern to avoid underpinning of Mandarin Tower, changes to the amount of compensation grouting and other related changes as a result of the CTS lowering.

4. Task 12.0 Drawings and Documents

Consultant shall perform the following Additional Work under Task 12.0:

- Revise designs to conform to lowered station (“Scheme A5”) requirements.

Consultant shall produce the following Deliverables under Task 12.0:

- Interim Drawings and Quantities Revisions for affected disciplines.

5. Additional Compensation:

City shall pay Consultant Nine Hundred Thousand Fifty Dollars (\$950,000) in full satisfaction and accord for the Additional Work described in this Section C of this First Amendment.

D. PREVIOUSLY EXERCISED OPTIONS

By letters (referenced in the following table), the SFMTA has exercised Options under the Contract, which have increased the Base Amount of the Contract Sum and decreased the remaining value of Option Work by the equivalent amount. The SFMTA's exercise and the Consultant's performance of the Optional Work has not increased the Contract Sum or added time to the Project schedule. following table summarizes the Options exercised:

Executed Contract Options:

Option Exercised	Letter No.	Base Amount	Base Fee	Option Amount	Option Fee
		\$35,059,241	\$3,308,718	\$4,890,707	\$474,821
Task 2.50	#0473	\$164,383	\$16,290	(\$164,383)	(\$16,290)
Task 12.07	#0473	\$110,392	\$10,940	(\$110,392)	(\$10,940)
Task 12.01.C5	#1232	\$12,796	\$1,268	(\$12,796)	(\$1,268)
Task 12.12	#0768	\$79,200	\$7,849	(\$79,200)	(\$7,849)

E. ADJUSTMENT OF CONTRACT AMOUNT

1. Section 13.3.1 ("Total Amount") of the Agreement is modified as follows:

13.3.1 The Total Amount of compensation under this Agreement for all Work performed by Consultant, shall not exceed **Forty Million Nine Hundred Sixty Thousand Five Hundred Forty Eight Dollars (\$40,960,548)** ~~Thirty-Nine Million Nine Hundred Forty-Nine Thousand Nine Hundred and Forty-Eight Dollars (\$39,949,948)~~, of which **Thirty Six Million Four Hundred Thirty-Six Thousand Six Hundred and Twelve Dollars (\$36,436,612)** ~~Thirty Five Million Fifty-Nine Thousand Two Hundred and Forty-One Dollars (\$35,059,241)~~ is for Basic Services, and **Four Million Five Hundred Twenty-Three Thousand Nine Hundred and Thirty-Six Dollars (\$4,523,936)** ~~Four Million Eight Hundred Ninety Thousand Seven Hundred and Seven Dollars (\$4,890,707)~~ is for Optional Services. The Total Amount of compensation shall be adjusted annually based on overhead audits performed pursuant to Section 13.11 by each respective consultant of the overhead rate (which shall include the costs of procuring and maintaining the project specific insurance rider or practice rider by KHA and MWA as identified in Section 15.5). This adjustment shall be made through by amendment of the Agreement. The Fixed Fee is not tied to Consultant's overhead rates and shall not increase or decrease based on overhead audit findings.

2. Section 13.4.1 ("Fixed Fee") of the Agreement is modified as follows:

13.4.1 For all of the Consultant's Basic Services, which are all services provided by Consultant except for those tasks and work specifically identified as Additional Work, the Agency shall pay the Consultant a Fixed Fee, which is Consultant's profit for performing the Basic Services under this Agreement. The Fixed Fee shall not exceed a sum total of **Three Million Four Hundred Thirty-Four Thousand Nine Hundred and Ninety-One Dollars (\$3,434,991)** ~~Three Million Three Hundred Eight Thousand Seven Hundred and Eighteen Dollars (\$3,308,718)~~ for Basic Services and an additional **Four Hundred Thirty-Eight Thousand Four Hundred and Seventy-Four Dollars (\$438,474)** ~~Four Hundred Seventy Four Thousand Eight Hundred and Twenty-One Dollars (\$474,821)~~ for Optional Services. The Fixed Fee, which is profit, will be allocated to the Prime and Subconsultants and is included in the Total Price set forth above. The SFMTA will pay Consultant the Fixed Fee proportionate to the completion of the work under the Agreement.

3. Summary of First Amendment:

Total Amount of this First Amendment: Increase: \$ 1,010,600.00

Previous Total Contract Amount:	\$39,949,948.00
New Revised Total Contract Amount:	\$40,960,548.00

Total Contract Time added by this Contract Modification:	None
Previous Task Order Completion Date:	April 2020
New Revised Task Order Completion Date:	April 2020

The remainder of this page has been intentionally left blank.

In Witness Whereof, the parties have executed this Modification in quadruplicate in San Francisco, California as of this _____ day of _____, 201__.

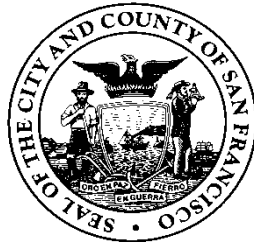
CITY	CONSULTANT
Approved:	Approved:
By: _____ Edward D. Reiskin Director of Transportation SFMTA	By: _____ Aileen Read Interim Project Manager Central Subway Design Group
Dated: _____	Dated: _____
SFMTA Board of Directors	
Resolution No. _____	
Dated: _____	
Attest:	
_____ Roberta Boomer, Secretary SFMTA Board of Directors	
Approved as to form:	
Dennis J. Herrera City Attorney	
By: _____ Robert K. Stone Deputy City Attorney	
Dated: _____	

CONTRACT FOR CENTRAL SUBWAY

FINAL DESIGN PACKAGE # 2

MOSCONE, UNION SQUARE & CHINATOWN
STATIONS

FOURTH AMENDMENT



**Fourth Amendment to Agreement between the City and County of San Francisco
and
the Central Subway Design Group
for Architectural and Engineering Services
for the Final Design and Construction of the
the San Francisco Municipal Transportation Agency
Central Subway Project
(Third Street Light Rail Project, Phase 2)**

**Contract No. CS-155-2
Design Package #2**

The City and County of San Francisco ("City"), by and through its Municipal Transportation Agency ("SFMTA") and the Central Subway Design Group ("Consultant" or "CSDG"), agree to amend Contract CS-155-2 ("the Agreement") to provide for Additional Work, as described in this Fourth Amendment to the Agreement.

I. CONSTRUCTION OF FOURTH AMENDMENT

- A. Except as expressly stated in this Fourth Amendment, the Consultant is responsible for performing all Work described in this Fourth Amendment.
- B. Except as specifically provided in this Fourth Amendment, all other terms and conditions of the Agreement remain unchanged. No provision of this Fourth Amendment shall amend any agreement or contract other than the "Agreement between the City and County of San Francisco and the Central Subway Design Group for Architectural and Engineering Services for the Final Design and Construction of the San Francisco Municipal Transportation Agency Central Subway Project" (Third Street Light Rail Project, Phase 2), SFMTA Contract No. CS-155-2. This Fourth Amendment is dated for convenience as June 5, 2018.
- C. In signing this Fourth Amendment, the signatories certify that each is authorized to execute this Fourth Amendment and thereby bind the party he or she represents.

II. ADDITIONAL DESIGN SERVICES DURING CONSTRUCTION

- A. Exhibit A Scope of Services, Task 16.20, Subsection "Services" is amended as follows:

16.20 Design Team Support

Services

Consultant will provide a single full time design team representative in the field during construction of all three stations. The representative will act as a liaison between the Consultant design staff, the CM, and SFMTA.

For Chinatown Station, Consultant will provide up to four full time field engineers and/or inspectors, as required, experienced in sequential excavation to provide services during the station excavation.

- B. Consultant will provide additional resources, under Task 16 Design Services During Construction, to address both the extension in project duration and the increased number of RFIs, Submittals, Change Order Requests, Design Revision Requests, and a corresponding proportional increase in the level of design coordination and management costs. The original budget for Task 16 was based on a level of effort assumed during Request for Proposal period. It is assumed for purposes of this Amendment 4, that at project completion, the Consultants will answer approximately 3,900 RFIs and 3,900 Submittals and associated Design Revisions and Change Order Request merit evaluations based on the number of construction documents received from the construction Contractor.
- C. Exhibit A Scope of Services, Task 16.30, Subsection “Assumptions and Exceptions” is amended as follows:

16.30 Shop Drawings Review and Consultation during construction
Assumptions and Exceptions

- Consultant may be required to provide additional design support reviewing Contractor Submittals and RFIs and amending Contract drawings and documents that were prepared and developed by the SFMTA.

- D. Compensation for Additional Work:

City shall pay Consultant an amount not to exceed Six Million Three Hundred Twenty-Three Thousand Nine Hundred Thirty-Six Dollars (\$6,323,936) in full satisfaction and accord for the Additional Work described in this Fourth Amendment.

III. PREVIOUSLY EXERCISED OPTIONS

The SFMTA has exercised Options under the Contract to increase the Base Services amount by decreasing an equivalent amount of the remaining Optional Services. The total amount transferred by these exercises are Four Million One Hundred Twenty-Seven Thousand Four Hundred Sixty-Four Dollars (\$4,127,464). The transfer of funds did not change the Contract Sum or the Contract Time.

Option Exercised	Letter No.	Amount
Task 2.50	CS Letter No. 0473	\$164,383
Task 12.07	CS Letter No. 0473	\$110,392
Task 12.07	CS Letter No. 0768	\$79,200
Task 12.07	CS Letter No. 1232	\$12,796
Task 12.12	CS Letter No. 1348	\$83,000
Task 5.3	CS Letter No. 2689	\$437,192
Task 7.0	CS Letter No. 2689	\$159,059
Task 12.0	CS Letter No. 2689	\$3,081,442
Total		\$4,127,464

IV. ADJUSTMENT OF CONTRACT AMOUNT

The Contract Amount is increased by an amount not to exceed \$6,323,936 as compensation for the performance of the Additional Work described in this Fourth Amendment, as follows:

1. Section 13.3.1 ("Total Amount") of the Agreement is replaced in its entirety as follows:

13.3.1 The Total Amount of compensation under this Agreement for all Work performed by Consultant, shall not exceed Forty-Seven Million Nine Hundred Thousand Six Hundred and Six Dollars (\$47,900,606), of which Forty-Seven Million One Hundred Seven Thousand Three Hundred and Sixty-Three Dollars (\$47,107,363) is for Basic Services, and Seven Hundred Ninety-Three Thousand Two Hundred and Forty-Three Dollars (\$793,243) is for Optional Services. The Total Amount of compensation shall be adjusted annually based on overhead audits performed pursuant to Section 13.11 by each respective consultant of the overhead rate (which shall include the costs of procuring and maintaining the project specific insurance rider or practice rider by KHA and MWA as identified in Section 15.5). This adjustment shall be made by amendment of the Agreement. The Fixed Fee is not tied to Consultant's overhead rates and shall not increase or decrease based on overhead audit findings.

2. Section 13.4.1 ("Fixed Fee") of the Agreement is replaced in its entirety as follows:

13.4.1 For all of the Consultant's Basic Services, which are all services provided by Consultant except for those tasks and work specifically identified as Additional Work, the Agency shall pay the Consultant a Fixed Fee, which is Consultant's profit for performing the Basic Services under this Agreement. The Fixed Fee shall not exceed a sum total of Four Million Four Hundred Five Thousand Fifty-Nine Dollars (\$4,405,059) for Basic Services and an additional Eighty-Three Thousand Eight Hundred and Fifty Dollars (\$83,850) for Optional Services. The Fixed Fee, which is profit, will be allocated to the Prime and Subconsultants and is included in the Total Price set forth above. The SFMTA will pay Consultant the Fixed Fee proportionate to the completion of the work under the Agreement.

3. Summary of Fourth Amendment:

Total Amount of this Fourth Amendment:	\$ 6,323,936
Previous Total Contract Amount:	\$ 41,576,670
New Revised Total Contract Amount:	\$ 47,900,606

Total Contract Time added by this Contract Modification:	None
Previous Task Order Completion Date:	April 2020
New Revised Task Order Completion Date:	April 2020

The remainder of this page has been intentionally left blank.

In Witness Whereof, the parties have executed this Modification in quadruplicate in San Francisco, California as of this _____ day of _____, 2018.

CITY	CONSULTANT
Approved:	Approved:
By: _____ Edward D. Reiskin Director of Transportation SFMTA	By: _____ John Fisher Principal Central Subway Design Group
Dated: _____	Dated: _____
SFMTA Board of Directors	
Resolution No. _____	
Dated: _____	
Attest:	
_____ Roberta Boomer, Secretary SFMTA Board of Directors	
Approved as to form:	
Dennis J. Herrera City Attorney	
By: _____ Robert K. Stone Deputy City Attorney	
Dated: _____	