


Memorandum

CS Memorandum No. 1461

To: Distribution

From: Beverly Ward, CMB/Risk Management Assistant 

Date: June 03, 2013

Reference: Project No. M544.1, Contract No. CS-149
Task No. 1-8.02, Change Control

Subject: Configuration Management Board Meeting No. 127

Attached please find minutes for Configuration Management Board Meeting No. 127 held on May 29 2013.

Attachments: CMB Meeting No. 127 Rev. 0 Minutes with attachments

Cc: David Kuehn, STV (w/attachments) david.kuehn@stvinc.com
Luis Zurinaga, SFCTA luis.zurinaga@sfcta.org
Shahnam Farhangi, SFMTA (w/attachments)
Arthur Wong, SFMTA (w/attachments)
Mark Benson, CSP (w/attachments)
Mark Latch, CSP (w/attachments)
Vivian Chow, SFMTA (w/attachments)
Eric Stassevitch, CSP (w/attachments)
Jane Wang, SFMTA (w/attachments)
Aileen Read, CSDG (w/attachments)
CS File No. M544.1.5.0890

Distribution:

Brad Lebovitz, STV (w/attachments) bradley.lebovitz@stvinc.com
John Funghi, SFMTA
Albert Hoe, SFMTA
Roger Nguyen, SFMTA
Richard Redmond, CSP
Ross Edwards, CSP
Joon Park, SFMTA
Brian Kelleher, SFMTA
Sarah Wilson, CSP
Beverly Ward, CSP

CMB Meeting Minutes #127

DATE: May 30, 2012

MEETING DATE: **May 29, 2013**

LOCATION: 821 Howard St, Main Conference Room

TIME: 3:00 PM

ATTENDEES: J Funghi (JF), A. Hoe (AH) - Part-time, R. Nguyen (RN), R Edwards (RE), J. Park (JP), R. Redmond, (RR), B. Kelleher (BK), B. Ward (BW), S. Wilson (SW), B. Lebovitz (BL)

COPIES TO: Attendees: S. Farhangi (SF), V. Chow (VC), M. Latch (ML), M. Benson (MB), A. Wong (AW), E. Stassevitch (ES), J. Wang (JW), A. Read (AR), L. Zurinaga (LZ), D. Kuehn (DK)
File No. M544.1.5.0890

REFERENCE Project No. M544.1, Contract No. 149 Task 1-8.02
Final Design

SUBJECT: Configuration Management Board Meeting # 127 – Rev. No. 0

RECORD OF MEETING *(Italicized text indicates status update of open items)*

ITEM #	DISCUSSION	ACTION BY DUE DATE
7- 04/03/13	1252 – R. Edwards presented PCC 012 - Revised Tunnel Alignment for approval of the Re-profile of tunnel to avoid the micropile installed under CN1251. In response to RFI 179 this PCC directs the Contractor to use the revised micropile northbound and southbound profile to avoid conflict with existing micropile. The change is required so that TBM and Tunnel structure is below previously installed micro-piles (see attached). The CMB recommend a request be made to the Contractor to segregate all changes so the information may be included in the documentation regarding the Designers E&O issue. Also the CMB need evidence that the design change has been routed and is signed off by the various disciplines as backup documentation for the files. Notification of the profile change will be submitted to BART and the IRP. Status: <i>05/29 This item was not discussed at this week's meeting.</i>	RE 06/05/13
8- 04/03/13	1252 – Design Services During Construction - M. Benson presented for a later discussion in more detail a summary of CS155-2 (DP2) Task16 Design Services expended for subtask 16.30 and 16.40. Demonstrating actual cost to date of design services expended during the construction phase. The CMB recommend the chart be expanded showing the total budget for the each individual task in column format, also a breakout of the submittal description and detailing the RFI category type reviewed under the headwalls. In addition information regarding hours spent on activities not included in 16.30 and 16.40. The CMB also requested the same level of effort be presented for review for Design Contract CS155-1 (DP1). This item will be brought back to the next CMB meeting. 04/10 M. Benson reported a modification to the DP2 Design Services chart was updated expanding the summary to demonstrate the burnout of the individual task/categories. Further investigation still needs to take place to resolve some issues with a conflicting burn rate between the actual progress payment invoice submitted and documentation submitted by	MB 06/05/13

ITEM #	DISCUSSION	ACTION BY DUE DATE
	<p>the Designer prior to being forward to the Deputy Program Manager for review. A detail presentation will be given at next week's meeting of DP2 and DP1 cost breakdown by category. <i>04/17:</i> An expanded summary spreadsheet was presented showing the break out of the categories for work under subtask 16.30 and 16.40 for - work completed to date, remaining work and reasons for overruns to support the reason for request for additional \$10K in funds. The CMB suggested the CM team put the Contractor on notice that any submittal regarding design substitution for review will be at the Contractor's expense. In addition the CMB requested a presentation of the DP1 Task 16 Design Services hours and cost detail summary also be brought to the CMB for review when finalize. This item will be brought back to next week's CMB. <i>Status: 05/29 This item was not discussed at this week's meeting.</i></p>	
<p>1- 05/08/13</p>	<p>1252- Submittal 31 74 17-025 Segments Spalls Repair Procedure, Rev 2 was presented for approval of response comments to SFMTA's review of Rev1 for the proposed Spalling Repair Procedure for stress relief portions of the tunnel segments (yellow and superficial) spalling. The Contractor submitted a revised submittal to address SFMTA's seven points of concerns (see attached). The CMB took exception to the revised submittals deficiency in demonstrating the repair procedure and missing information recommending the proposed design mix for the repairs. In addition a second Submittal 31 74 17-026 Segment Liner Alternate Repair Method data sheet proposing a new repair product <i>CTS Rapid Set Mortar Mix</i> as a possible alternate patching material for minor segment chips/spalls to the previously proposed <i>Speedcrete Red Liner Morta</i> was submitted. The CMB recommends that the CM Team request revised submittals demonstrating a clear line of responsibility for the design liability and a comprehensive and cohesive approach to repairs that specifically respond to the original comments. This item will be brought back to the CMB at a later date. <i>Status: 05/29 This item was not discussed at this week's meeting.</i></p>	<p>ML 06/05/13</p>
<p>2- 05/08/13</p>	<p>1252 – M. Benson requested approval for negotiation position for COR79 Compensation Grout – Old Navy additional cost associated with inefficiencies of installing the compensation grout tubes. Justification was based on the premise that the larger piece of equipment could have performed the work if the in place utilities had been found as shown in the Bid documents. Because of the actual configuration of underground utilities was much different than that shown on the Bid documents, payment is warranted for the inefficiencies caused by utilizing the smaller piece of equipment. The CMB raised several questions about the graphical depiction of the As Bid condition and requested that the graphical representation be properly updated to show the As Bid condition. Similarly, the actual condition graphic could be improved to better show actual conditions found. Detailed information demonstrating the cost of the inefficiency appear in order, however the requested NTE amount was not properly justified compared to the computed cost by the Engineer. The CMB was unable to provide approval due to the still open question that the utility obstructions potentially indicate the Contractor should have brought in a smaller rig to begin with. CMB suggested improved graphics and supporting information be developed to justify the requested negotiating position. This item will be brought back to the CMB next week. <i>05/15</i> A revised graphic was shown depicting the actual condition shown found incorporating the second PG&E 12" electrical line. Further determination from the BP dwgs indicates the Contractor could have actually accomplished the work by using the original larger Klemm machine as listed in the bid proposal. AGREE – CMB 0117 Not to exceed value of \$152,000 to be negotiated as a lump sum for inefficiencies associated with having to use a smaller drill rig to work around the existing utilities. In addition the CM Team will obtain the invoice from the Contractor to identify the actual cost for the rental of the smaller Comacchio drill rig. <i>Status: 05/29 Documentation was presented to showing the monthly rental rate for the Comacchio rig. The CMB took exception to the documentation presented stating the information describes an Equipment agreement value and not a monthly rental invoice. The CMB requested the RE obtain from</i></p>	<p>ML 06/05/13</p>

ITEM #	DISCUSSION	ACTION BY DUE DATE
	<i>the Contractor an actual invoice which can be compared to the cost estimate as validation of the rental rate. This item will be brought back to the CMB at a later date.</i>	
5- 05/08/13	1252 – M. Benson requested negotiation position for PCC 06 cost comparison of Additional BART Tunnel Instrumentation (see attached). The CMB expressed concerned that the \$624K price to perform the work was too high and requested Jane Wang to contact the IRP in writing to find out if the additional instrumentation monitoring was still warranted given the new lowered tunnel alignment and the cost to implement the work. The RE will confirm the date for which a final decision by SFMTA is to be made to forward to the Contractor. This item will be brought back to the CMB at a later date. <i>Status: 05/29 This item was not discussed at this week's meeting.</i>	JW 06/05/13
1-	1252 – S. Wilson presented BIH's subcontractor Wang Technology's billing rates for PCC06 - Geotechnical Instrumentation and Monitoring work for acceptance of professional services fully burdened hourly rate above prevailing wage proposed by the Contractor. Work required by Wang falls outside of the traditional "prevailing wage" work and as dictated by the Contract under General Provisions "Work Performed by Special Forces (GP 6.05.C)" may be allowed. The CMB recommended that the RE request from Wang a series of old invoices from a prescribed period and their pre published rates prior to negotiation of lump sum cost agreement is reached on PCC 06. This item will be brought back to the CMB.	SW 06/05/13
2-	1252 – Submittal 31 74 17-025 – Construction Sequence drawings were presented for information of the UMS Station North Headwall Work Plan for revised Secant and Tangent Pile installation. The revised submittal addresses SFMTA concerns during submittal review of the plan to maintain vertically of the piles and potential settlement to the surrounding structures (see attached). SFMTA Inspectors will need to be trained on how to read the verticality data and check immediately if the placement is correct.	
3-	The Program Trend/Change Control Log dated 05/29 was not viewed at this week's meeting. The log is updated to include the current items trending for Contract 1252 and is attached for distribution with these meeting minutes.	

ACTION ITEMS

ITEM #	MTG DATE	MTG ACTION DATE	DESCRIPTION	BIC	DUE DATE	STATUS
1	11/07/12	11/07/12	1300 – 1254 SF Planning Request - Cost	RE	06/05/13	Open
7	04/03/13	04/03/13	1252 – PCC 12 – Advise BART and IRP	RE	06/05/13	Open
8	04/03/13	04/03/13	1252 – DP2/DP1 – Design Services hours and cost during construction – DP1 Review	MB	06/05/13	Open
1	05/09/13	05/09/13	1252 - Spalls Repair Procedure - Revision	ML	06/05/13	Open
5	05/09/13	05/09/13	1252 – PCC 06 – Contact IRP – Revisit Monitoring Instrumentation plan	JW	06/05/13	Open
2	05/15/13	05/15/13	1252 – COR 079 – Rental Invoice for Comacchio rig	MB/SW	06/05/13	Open
1	05/29/13	05/29/13	1252 – PCC 06 – Wang Technology's Special Forces - invoices from similar projects	SW	06/05/13	Open

Meeting adjourned at 4:25PM

These meeting minutes have been prepared by B. Ward and reviewed by, R. Edwards and are the preparer's interpretation of discussions that took place. If the reader's interpretation differs, please contact the author in writing within four (4) days of receipt of these minutes.

Signed:   [initials of preparer & reviewer] Date: 5/31/2013 [Date review completed]

Meeting Agenda

Project No. M544.1, Contract No. CS-149
Program/Construction Management
Configuration Management Board (CMB) Meeting No. 127
May 29, 2013
3:00pm – 5:00pm
 Central Subway Project Office
 821 Howard St. 2nd Floor
 Main Conference Room

Attendees:

Mark Benson	John Haley	Mark Latch	Eric Stassevitch
Vivian Chow	Albert Hoe	Brad Lebovitz	Beverly Ward
Ross Edwards	Brian Kelleher	Roger Nguyen	Sarah Wilson
Shahnam Farhangi	Jim Kelly	Joon Park	Arthur Wong
John Funghi	David Kuehn	Richard Redmond	Luis Zurinaga

1. **1252** – PCC 06 – Wang Technology Billing Rates – *For Approval*
 – Submittal 31 6213.15-013 - UMS North Headwall Work plan

2. **Trend/Change Log** – 05/29/13

3. **Other Business** – Action item – COR 079 Comacchio Rental Equipment

Meeting Attendance Sheet

Project No. M544.1, Contract No. 149
Program/Construction Management
Configuration Management Board Meeting No. 127
May 29, 2013
3:00 p.m. – 5:00 p.m.
 Central Subway Project Office
 821 Howard, 2nd Floor
 Main Conference Room

Deliver Meeting Attendance Sheet with original signatures/initials to Document Control.

NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
Please enter initials if your name is listed below. Please enter name, affiliation, phone number and email address if your name is not listed below.				
Benson, Mark	CSP	(415) 701-4295	Mark.Benson@sfmta.com	
Chow, Vivian	SFMTA	(415) 701-5264	Vivian.chow@sfmta.com	
Edwards, Ross	CSP	(415) 701-5296	Ross.Edwards@sfmta.com	RE
Farhangi, Shahnam	SFMTA	(415) 554-0721	Shahnam.Farhangi@sfmta.com	
Funghi, John	SFMTA	(415) 701-4299	John.Funghi@sfmta.com	
Haley, John	SFMTA		John.Haley@sfmta.com	
Hoe, Albert	SFMTA	(415) 701-4289	Albert.Hoe@sfmta.com	
Kelleher, Brian	SFMTA	(415) 701-5289	Brian.Kelleher@sfmta.com	
Kelly, Jim	SFMTA		Jim.Kelly@sfmta.com	
Kuehn, David	STV/PMOC	(510) 464-8053	David.kuehn@stvinc.com	
Latch, Mark	CSP	(415) 701-5294	Mark.Latch@sfmta.com	
Lebovitz, Brad	STV/PMOC	(510) 464-8052	Bradley.lebovitz@stvinc.com	

central  subway

NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
Nguyen, Roger	SFMTA	(415) 701-4312	Roger.Nguyen@sfmta.com	RON
Park, Joon	SFMTA	(415) 701-4742	Joon.Park@sfmta.com	JQ
Redmond, Richard	CSP	(415) 701-4288	Richard.Redmond@sfmta.com	RR
Stassevitch, Eric	CSP	(415) 701-4426	Eric.Stassevitch@sfmta.com	
Ward, Beverly	CSP	(415) 701-5291	Beverly.Ward@sfmta.com	BW
Wilson, Sarah	CSP	(415) 243-0950	Sarah.Wilson@sfmta.com	SW
Wong, Arthur	SFMTA	(415) 701-4305	Arthur.Wong@sfmta.com	
Zurinaga, Luis	SFCTA	(415) 716-6956	Luis.zurinaga@sfcta.org	

Central Subway Presentation

Wang Technology Billing Rates

Presented by Sarah Wilson

05.29.2013

Issue: Prevailing Wage v. Professional Services

- The Contract states that labor rates “shall not exceed those prevailing in the locality and at the time the Work under the Change Order is being performed.”
- The Contract also allows for work performed by Special Forces under a provision (GP 6.05 C) used to pay ARUP for professional services for retrieval shaft design
- BIHJV/Wang have submitted cost proposals for extra work which includes labor rates for professional services in excess of prevailing wage

Recommendation

Accept the fully burdened hourly labor rates proposed by Wang Technology for extra work under Contract 1252

Contract Analysis

Contract Spec 31 09 13 “Geotechnical Instrumentation and Monitoring” prescribes the following requirements:

- Instrumentation Engineer posses a CA PE license (1.05 C 6)
- Surveyors shall be licensed in the State of California (1.05 D 1)
- AMTS specialists shall be a CA Professional Registered Land Surveyor (1.05 D 3)
- Licensing requirements are outside of traditional “prevailing wage classifications” i.e. Instrument man

Contract Analysis (cont.)

Specification (1.05 D) requires:

- Liquid Level and AMTS specialists perform planning and data interpretation

2012 – 2015 Master Agreement between Technical Engineers and California Civil Engineers and Land Surveyors

- Scope language does not include planning or data interpretation

Wang Proposed Hourly Rates

Wang proposes the following fully burdened hourly rates:

- \$124.83 ST
- \$182.73 OT (1.5X)
- \$240.63 DT (2.0X)

Cost Analysis

Surveyed marketplace for similar services:

	Wang Proposal	ISI Invoice CCSF DPW, April 2013	ISI Invoice JA, July 2010	ARUP Invoice BIH, April 2013
ST	124.83	\$125-160	\$108	\$130-182
OT	182.73 (1.5 ST)	N/A	1.5 ST	N/A
DT	240.63 (2.0 ST)	2.0 ST	N/A	N/A

Cost Analysis (cont.)

- Of the engineering billing range reviewed, Wang's proposed fully burdened rates are near the low end of the range
- Wang's methods for calculating OT and DT rates are consistent with the marketplace

Conclusion

- Contract requires that services provided by Wang Technology fall outside of traditional “prevailing wage” work
- Cost Analysis indicates that Wang’s proposed fully burdened rates are within the range of hourly rates billed by other professional firms for similar services
- Staff recommends to accept the fully burdened hourly labor rates proposed by Wang Technology for extra work under Contract 1252

Subcontractors prior to Bid, and such costs shall be included in Contractor's Total Bid Price.

- F. Records—Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of Change Orders and the cost of original Contract Work. This requirement pertains to all types of Change Orders, as well as the additions, deletions, revisions, CORs, and Claims initiated by Contractor.

6.05 FORCE ACCOUNT WORK

- A. General—When additions, deletions, or revisions in the Work are to be paid for on a Force Account basis, all direct costs itemized in subsection 6.04.A shall be subject to the approval of the City and compensation will be determined as set forth herein.
1. The City will direct Contractor to proceed with the Work on a Force Account basis, and the City will establish a "not to exceed" budget.
 2. All requirements regarding direct costs and markup for overhead and profit provided in Section 6.06 shall apply to Force Account Work. However, the City will pay only the actual necessary costs verified in the field by the City on a daily basis.
 3. Contractor shall be responsible for all costs related to the documentation, data preparation, and administration of Force Account Work. Compensation for such costs shall be fully covered by the markup for overhead and profit markup as provided in subsection 6.04.C.
- B. Notification and Verification—Contractor shall notify the City in writing at least 24 hours in advance of its schedule before proceeding with the Force Account Work. All Force Account Work shall be witnessed, documented, and approved in writing by the City on the Day that the Work is performed. Contractor will not be compensated for Force Account Work if Contractor fails to provide timely notice to the City before commencing the Force Account Work. In addition, Contractor shall notify the City when the cumulative costs incurred by Contractor for the Force Account Work equal 80 percent of the budget pre-established by the City. Contractor will not be compensated for Force Account Work exceeding the "not to exceed" budget amount if Contractor fails to provide the required notice before exceeding 80 percent of the Force Account budget.

C. Work Performed by Special Forces or Other Special Services

1. For procurement of Special Track work, poles, fabricated assemblies, software and operating equipment and when the Engineer and the Contractor, by agreement, determine that a special service or an item of extra work cannot be performed by the forces of the Contractor or those of any of its Subcontractors, such service or extra work item may be performed by a specialist. Invoices for such service or item of extra work on the basis of the current market price thereof may be accepted without complete itemization of labor, material, and equipment costs when it is impracticable and not in accordance with the established practice of the special service industry to provide such complete itemization.
2. In those instances wherein Contractor is required to perform extra work necessitating a fabrication or machining process in a fabrication or machine shop facility away from the jobsite, the charges for that portion of the extra work performed in such facility may, by agreement, be accepted as a specialist billing.

The Engineer must be notified in advance of all Work that will not be performed at the Site.

3. An amount not to exceed 5 percent will be added to the specialist in-place price, less a credit to the Agency for any cash or trade discount offered or available, whether or not such discount may have been taken. This 5 percent is in lieu of the percentages provided in Section 6.04.C for work performed by a Subcontractor.

- D. Reports—Contractor shall diligently proceed with the approved Force Account Work and shall submit to the City no later than 12:00 p.m. of the Day following performance of Force Account Work a daily Force Account Work report on a form obtained from the City. The report shall provide an itemized, detailed account of the daily Force Account labor, material, and equipment, including names of the individuals and the specific pieces of equipment identified by manufacturer's model type and serial number. Contractor's authorized representative shall complete and sign the report. Contractor will not be compensated for Force Account Work for which said timely report is not completed and submitted to the City.
- E. Records—Contractor shall maintain detailed records of all Work done on a Force Account basis. Contractor shall provide a weekly Force Account summary indicating the status of each Force Account Work directive in terms of actual costs incurred as a percent of the budget for the respective Force Account Work directive and the estimated percentage completion of the Force Account Work.
- F. Agreement—If Contractor and the City reach a negotiated, signed agreement on the cost of a Change Order while the Work is proceeding on a Force Account basis, Contractor's signed written reports shall be discontinued and all previously signed reports shall become invalid.

6.06 ORAL MODIFICATIONS

No oral statement of any person shall in any manner or degree modify or otherwise affect the terms of this Contract.

ARTICLE 11 TIME

11.01 PROGRESS AND COMPLETION

- A. Commencement of Work. When the Contract has been certified by the Controller, the Agency will designate the official date for commencement of the Work (NTP) and will notify the Contractor by a Notice to Proceed. The Contractor shall take no action that shall obligate the City to, and the City shall not be obligated for, the expenditure of funds before said official commencement date. The Contractor shall begin work within 10 calendar Days after said official commencement date, and shall prosecute the same diligently thereafter at a rate sufficient to enable it to complete the Work within the Contract Time. .
- B. Notice of Commencement of Work. The Contractor shall notify the Engineer in writing, not less than three (3) Working Days in advance, of the actual date the Contractor will begin the Work under the Contract. Said notice shall contain information as to the time



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41 Ford Street
San Francisco, California 94114
Tel: (609) 750-8860
Fax: (415) 366-2174

Sender's E-mail: ashley@wangtechnology.com

May 10, 2013

Mr. Jack Sucilsky
Barnard-Impregilo-Healy JV
420 4th Street
San Francisco, CA 94107
jack.sucilsky@barnard-inc.com

Re: Third Street Light Rail Project, Phase 2 - Central Subway Tunneling, Contract 1252

Additional Information - Professional Entity Justification

Dear Mr. Sucilsky:

Wang Technology is a professional entity that provides services in the specialized field of geotechnical instrumentation and monitoring. Our team members possess many specialized skills unique to the real time monitoring and reporting services we provide such as, software programming, data acquisition system design, wireless communication system design, and data analysis. Please refer to the following attachment (Wang Technology – Firm Information) regarding the educational backgrounds, professional certifications, and skills possessed by Wang Technology employees. As evidenced by the last page of the attachment, our firm has a total of 35 people. Two people have doctoral degrees, and nine people have some type of graduate degree, mostly in technical/engineering fields. 16 people are engineers. By our employee roster, it is clear that we are not a typical union firm.

For Contract 1252 Wang Technology has provided individual with specialized skill sets as required by the specifications in 31 09 13 which require a Instrumentation Engineer, AMTS specialist, and Liquid Level Specialist. These positions all require individuals with extensive knowledge and hands on experience. While the majority of our field work has been classified as prevailing wage work we feel strongly that our work is highly specialized and very technical; we work in a niche industry. For these reasons, we are unable to employ someone "off the bench" from Local 3 (or any other union) and have them do our work. Typically, our new hires do not have prior experience doing instrumentation and there is significant on-the-job training and education.

While we respectfully accept and will comply with the prevailing wage determination made by San Francisco's OLSE, we should note that we have not been held to prevailing wage or union wage standards in any other jurisdiction in which we perform work (except with regard to manual survey work).

Best regards,

Ashley Anderson

cc: **Wang** – John Wang, P.E.; Jennifer Wang, Esq.; Ashley Anderson; (*via e-mail*)



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WHO WE ARE

Wang Technology is a full-service geotechnical and structural instrumentation and monitoring firm. We provide complete, integrated, and cost-effective solutions to our client in order to meet its particular needs with regard to structural monitoring, including monitoring of subway tunnels, adjacent buildings and SOE structures. We also perform pre- and post-construction building survey services.

Our firm monitors a range of construction activities, including excavation work, utility relocation work, rock blasting, tunneling, pile driving, underpinning, dewatering and other types of activities.

Wang Technology has performed extensive instrumentation and monitoring work on virtually all of the large-scale public infrastructure projects in New York City, including the **World Trade Center Transportation Hub**, the **Long Island Rail Road – East Side Access** project, the **2nd Avenue Subway, No. 7 Line Extension** and the **Fulton Street Transit Center**. Our projects also include water tunnel and water treatment plant projects for NYC DEP.

In connection with our recent expansion to the west coast, our firm is also performing work on the **Third Street Light Rail – Central T Subway** project in San Francisco, California.

We have also provided instrumentation and monitoring services for private projects, including the **New Yankee Stadium**, the **New Mets Stadium**, East River Plaza and the Whitney Museum.

We have worked with a wide range of project owners, including the New York City Transit Authority, the Metropolitan Transportation Authority, San Francisco Metropolitan Transportation Authority, the Port Authority of NY/NJ, the New York City Department of Environmental Production, the New York City Economic Development Corporation, Forest City Ratner & Companies, Tishman Speyer, Atlantic Development Group and Burlington County.

Our firm provides all aspects of the areas of work described below, including design, supply, installation, monitoring and report services.

OUR SERVICES

- **Building Examinations (Pre- and Post-Construction Surveys).** We perform building examinations and prepare detailed reports presenting the results of such examinations.
- **Structural and Geotechnical Instrumentation.** We use a variety of different instrument types, including:

- Seismographs
- Noise Meters
- Liquid Level Systems
- Automated Motorized Total Station (AMTS)
- Vibrating Wire Strain Gauges

Dynamic Strain Gauges
Load Cells
Multiple-Point Borehole Extensometers
Automated Crack Gauges
Grid Crack Gauges
Bassett Convergence Systems
Open Standpipe Piezometers
Vibrating Wire Piezometers
Tiltmeters (or Beam Sensors)
Inclinometers
Rock and Soil Extensometers

Whenever possible, our firm employs software and internet technology to facilitate data transmission from our on-site instruments to our office for data analysis and processing. Such methods permit us to deliver timely reports and minimize costs to our clients.

- **Quality of Life Monitoring.** Along with structural and geotechnical monitoring, our firm performs quality of life monitoring, such as noise and dust monitoring.

LIST OF PROJECTS

Third Street Light Rail – Central T Subway (Contract 1252)

Client:	Barnard-Impregilo-Healy JV
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Automated Motorized Total Station Seismographs Deep Benchmarks Observation Wells Inclinometers Tiltmeters Liquid Level System Multiple Point Borehole Extensometers Grid Crack Gauges Strain Gages Load Cells Manual Optical Survey (for building settlement verification)
Structures monitored:	Surrounding buildings and tunnels
Contract value:	Approx. \$4.5 million

Second Avenue Subway, 86th Street Station – Mining of Cavern (Contract NYCT C-26008)

Client:	Skanska-Traylor JV
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Automated Motorized Total Station Seismographs Deep Benchmarks Observation Wells Inclinometers Tiltmeters Multiple Point Borehole Extensometers Grid Crack Gauges Vibrating Wire Crack Gauges Vibrating Wire Strain Gages Load Cells Manual Optical Survey (for building settlement verification)
Structures monitored:	Surrounding buildings
Contract value:	Approx. \$7 million

Second Avenue Subway, 92nd to 63rd Street Tunnel (Contract NYCT C-26002)

Client:	S3 Tunnel Constructors
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Automated Motorized Total Station Seismographs Observation Wells Open Standpipe Piezometers Vibrating Wire Piezometers Inclinometers Vibrating Wire Strain Gages Manual Optical Survey (for building settlement verification)
Structures monitored:	Surrounding buildings
Contract value:	\$9 million

East Side Access, Long Island Rail Road (Contract CM009)

Client:	Dragados/Judlau JV
Services rendered:	Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Automated Motorized Total Station Liquid Level Sensor System Piezometers Tiltmeters Extensometers Manual Optical Survey (for building settlement verification)
Structures monitored:	NYCT tunnels and surrounding buildings
Contract value:	\$6.2 million

East Side Access, Long Island Rail Road (Contract CM019)

Client:	Dragados/Judlau JV
Services rendered:	Supply and Installation of Instrumentation
Instrumentation used:	Vibrating Wire Strain Gages Dynamic Strain Gages Deformation Monitoring Points
Structures monitored:	MTA tunnels and surrounding buildings
Contract value:	\$6.2 million

East Side Access, Long Island Rail Road (Contract CS800)

Client:	MTA Capital Construction
Services rendered:	Supply & Installation of Instrumentation
Instrumentation used:	Deep Benchmarks In-place Inclinometers Multiple Borehole Extensometers High-Frequency Geophones/Seismographs Prisms for Structural Monitoring Prisms for Surface Movement Monitoring Liquid Level Settlement System Dynamic Strain Gages Tiltmeters
Structures monitored:	NYCT tunnels and surrounding buildings

Contract value: \$6.5 million

East Side Access, Long Island Rail Road (Contract CS810)

Client: MTA Capital Construction

Services rendered: Supply & Installation of Instrumentation

Instrumentation used: Deep Benchmarks
In-place Inclinometers
Multiple Borehole Extensometers
Observation Wells
Track Dynamic Points
Seismographs
Prisms for Structural Monitoring
Prisms for Surface Movement Monitoring
Prisms for Track Monitoring
Automated Motorized Total Station
Liquid Level Settlement System
Dynamic Strain Gages
Tiltmeters

Structures monitored: NYCT tunnels and surrounding buildings

Contract value: \$2.7 million

East Side Access, Long Island Rail Road, Queens Bored Tunnels (Contract CQ031)

Client: Granite-Traylor-Frontier Brothers

Services rendered: Supply, Installation & Monitoring of Instrumentation

Instrumentation used: Open Standpipe Piezometers
In-place Inclinometers
Inclinometers in Slurry Wall
Load Cells
Multiple Borehole Extensometers
Seismographs
Prisms for Surface Movement Monitoring
Prisms for Track Monitoring
Automated Motorized Total Stations
Vibrating Wire Strain Gages
Tiltmeters

Structures monitored: NYCT tunnels and surrounding buildings

Contract value: \$3 million

East Side Access, Long Island Rail Road, Queens Bored Tunnels (Contract CQ039)

Client: Schiavone-Kiewit JV

Services rendered: Supply, Installation & Monitoring of Instrumentation

Instrumentation used: Seismographs
Prisms for Surface Movement Monitoring
Automated Motorized Total Stations
Tiltmeters

Structures monitored: NYCT tunnels and surrounding buildings

Contract value: \$200,000

WTC Transportation Hub, East Bathtub Instrumentation

Client name and address: Phoenix Constructors, JV

Services rendered: Building Examination
Supply, Installation and Monitoring of Instrumentation

Instrumentation used: In-Place Inclinometers
Rebar Strain Gages
Seismographs
Observation Wells
Piezometers
Load Cells
Manual Optical Survey (for building settlement verification)

Structures monitored: Slurry walls and surrounding buildings

Contract value: \$2.0 million

WTC Transportation Hub, Route 9A Underpass Instrumentation (18A)

Client name and address: Phoenix Constructors, JV

Services rendered: Building Examination
Supply, Installation and Monitoring of Instrumentation

Instrumentation used: In-Place Inclinometers
Liquid Level System
Piezometers
Automated Motorized Total Station
Seismographs

Manual Optical Survey (for building settlement verification)

Structures monitored: Secant Pile Walls and Jet Grout Walls
Ground Freezing
Surrounding Buildings

Contract value: \$766,000

WTC Transportation Hub, Route 9A Underpass Instrumentation (18B)

Client name and address: Phoenix Constructors, JV

Services rendered: Supply, Installation and Monitoring of Instrumentation

Instrumentation used: In-Place Inclinerometers
Tiltmeters
Piezometers
Tape Extensometers
Strain Gages
Automated Crack Gages
Seismographs
Manual Optical Survey (for building settlement verification)

Structures monitored: Secant Pile Walls and Jet Grout Walls
Surrounding Buildings

Contract value: \$1.75 million

WTC Transportation Hub, Noise and Vibration Monitoring (Site-Wide)

Client name and address: Phoenix Constructors, JV

Services rendered: Supply, Installation and Monitoring of Instrumentation

Instrumentation used: Sound Level Meters
Seismographs

Structures monitored: Surrounding Commercial Buildings

Contract value: \$496,000

WTC Transportation Hub, South Mezzanine Foundation

Client name and address: Phoenix Constructors, JV

Services rendered: Supply, Installation and Monitoring of Instrumentation

Instrumentation used: Automated Motorized Total Station
Piezometers
Observation Wells
Rail Monitoring Points
Surface Monitoring Nails
Crack Gauges
Seismographs

Structures monitored: Port Authority Structures

Contract value: \$165,000

WTC Transportation Hub, PATH Hall

Client: Skanska-Granite-Skanska JV

Services rendered: Building Examinations
Supply, Installation and Monitoring of Instrumentation

Instrumentation used: Rail Monitoring Points
Seismographs
Crack Gages
Noise Meters
Manual Optical Survey

Structures monitored: Surrounding Buildings
PATH Tracks

Contract value: \$360,000

Fulton Street Transit Center, Foundation (A-36119)

Client: Skanska USA Civil Northeast

Services rendered: Building Examinations
Supply, Installation and Monitoring of Instrumentation

Instrumentation used: Automated Motorized Total Station (AMTS)
Liquid Level System
Strain Gauges
EL Tiltmeters (or Beam Sensors)
Seismographs

	Inclinometers Piezometers Observation Wells Automated Crack Gages Manual Optical Survey (building settlement verification)
Structures monitored:	Surrounding Buildings NYCT Structures
Contract value:	\$1.2 million

Fulton Street Transit Center, Corbin Building Restoration (A-36126)

Client:	Judlau Contracting Inc.
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Automated Motorized Total Station (AMTS) EL Tiltmeters (or Beam Sensors) Seismographs Automated Crack Gages
Structures monitored:	Corbin Building NYCT Structures
Contract value:	\$240,000

Fulton Street Transit Center, Enclosure

Client:	Plaza-Schiavone JV
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Automated Motorized Total Station (AMTS) EL Tiltmeters (or Beam Sensors) Seismographs Automated Crack Gages
Structures monitored:	Corbin Building NYCT Structures
Contract value:	\$170,000

Fulton Street Transit Center, A/C Mezzanine (A-36121)

Client:	Skanska USA Civil Northeast
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	EL Tiltmeters (or Beam Sensors) Seismographs Crack Gages Noise Meters Manual Optical Survey (building settlement verification)
Structures monitored:	Surrounding Buildings NYCT Structures
Contract value:	\$390,000

Fulton Street Transit Center, Dey Street Head House (A-36137)

Client:	WDF Inc.
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Seismographs Noise Meters
Structures monitored:	Surrounding Buildings
Contract value:	\$175,000

Fulton Street Transit Center, R/W Cortland Street Station Rehabilitation (A-36165)

Client:	Skanska USA Civil Northeast
Services rendered:	Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	PK Nails Crack Meters Rotating Self-Leveling Laser Rail Monitoring Points
Structures monitored:	NYCT Structures
Contract value:	\$105,000

Dey Street Concourse Structural Box (NYCT A-36025)

Client:	Skanska USA Civil Northeast
Services rendered:	Building Examination Instrumentation and Monitoring Program Design Supply, Installation and Monitoring Of Instrumentation
Instrumentation used:	Automated Motorized Total Station (AMTS) Liquid Level System Vibrating Wire Strain Gauges EL Tiltmeters (or Beam Sensors) Seismographs Inclinometers Piezometers Manual Optical Survey (building settlement verification)
Structures monitored:	NYCT subway box @ Church Street and Broadway 20 buildings (approx.) along Church St., Dey St. and Broadway SOE (Support of Excavation) Structure
Contract value:	\$1.55 million

New Yankee Stadium

Client:	Tishman Speyer
Services rendered:	Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Seismographs Automated Motorized Total Station
Structures monitored:	NYCT Subway Tunnel Surrounding Commercial Buildings
Contract value:	\$560,000

Vent Plant Rehabilitation 6357 (9B) @ W. 30th Street/6th Avenue (NYCT Contract 31275R)

Client:	Schiavone Construction
Services rendered:	Building Examinations Supply, Installation and Monitoring of Instrumentation
Instrumentation used:	Seismographs Automated Motorized Total Station Strain Gages Inclinometers

Piezometers
Tiltmeters
Crack Gages

Structures monitored: NYCT Subway Tunnel
Surrounding Commercial Buildings

Contract value: \$1 million

Tunnel Hardening for 63rd Street Tunnel at Roosevelt Island (NYCT C-52032)

Client: Skanska USA Civil Northeast

Services rendered: Building Examination
Instrumentation and Monitoring Program Design
Supply, Installation and Monitoring of Instrumentation

Instrumentation used: Liquid Level System
EL Tiltmeters (or Beam Sensors)
Seismographs
Manual Optical Survey (for building settlement verification)

Structures monitored: NYCT Subway Tunnels (F line)
Roosevelt Island Ventilation Building
SOE (Support of Excavation) Structure

Contract value: \$120,000

Whitehall Ferry Terminal

Client: New York City EDC

Services rendered: Building Examination
Supply, Installation and Monitoring of Instrumentation
Caisson Installation Quality Control

Instrumentation used: Vibrating Wire Strain Gauges
EL Tiltmeters (or Beam Sensors)
Video Surveillance System
Seismographs
Inclinometers
Manual Optical Survey (for building settlement verification)

Structures monitored: NYCT Subway Tunnels (4/5 line, N/R line)
NYC DOT Battery Park Underpass

Contract value: \$1.9 million

Queensboro Bridge (NYC DOT BRC231C)

Client: Hatch Mott McDonald

Services rendered: Instrumentation and Monitoring Program Design
Supply, Installation and Monitoring of Instrumentation

Instrumentation used: EL Tiltmeters (or Beam Sensors)
Seismographs

Structures monitored: NYCT Subway Elevated Structure (7 line, N/W line)

Contract value: \$225,000

ADA Elevators and Canopy @ Bowling Green Station (NYCT A-36001, A-36042)

Client: Citnalta Construction

Services to be rendered: Building Examination
Instrumentation and Monitoring Program Design
Supply, Installation and Monitoring of Instrumentation

Instrumentation used: EL Tiltmeters (or Beam Sensors)
Seismographs
Manual Optical Survey (for building settlement verification)

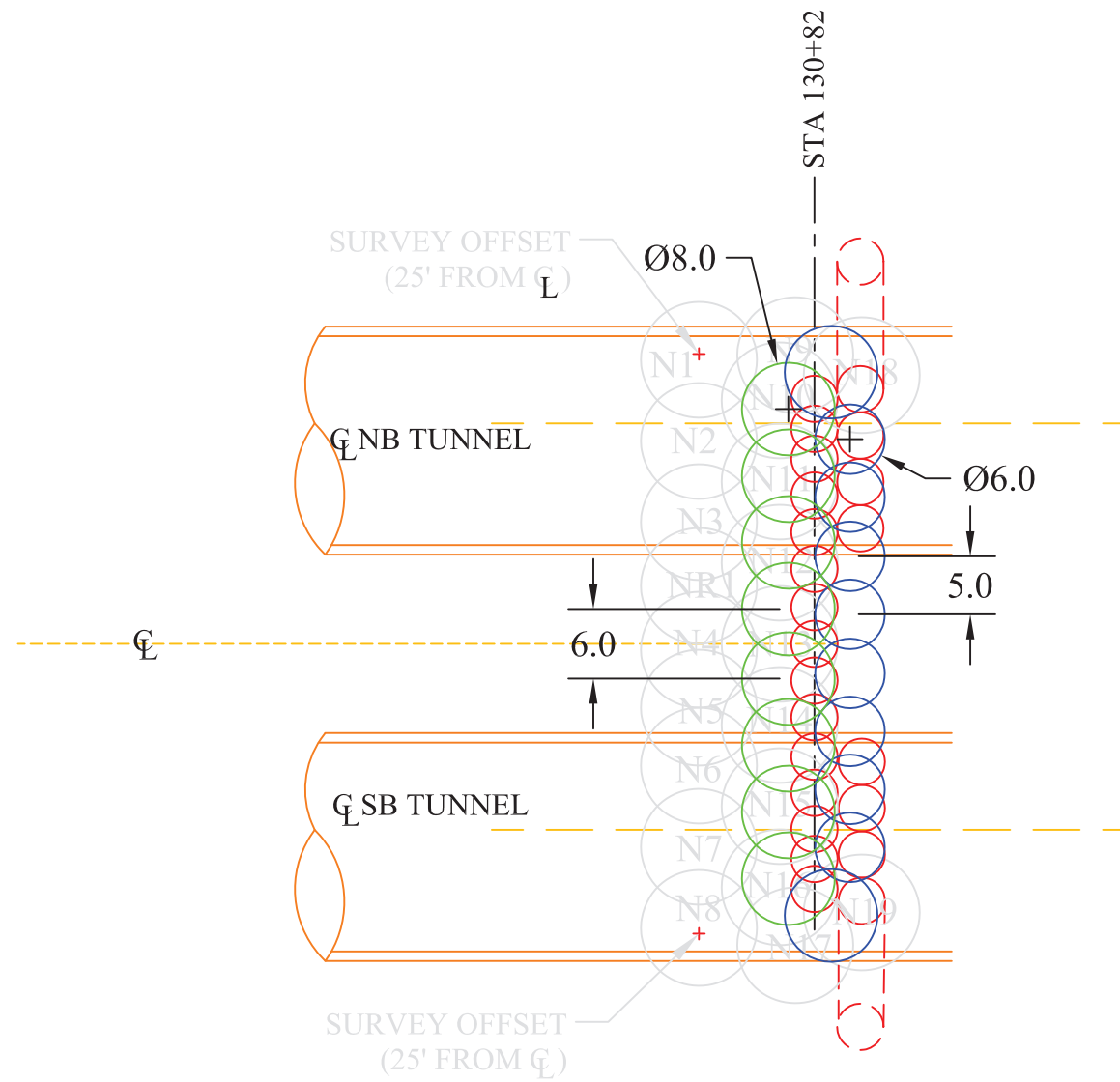
Structures monitored: NYCT Subway Tunnels (4/5 line)
Surrounding Buildings

Contract value: \$100,000

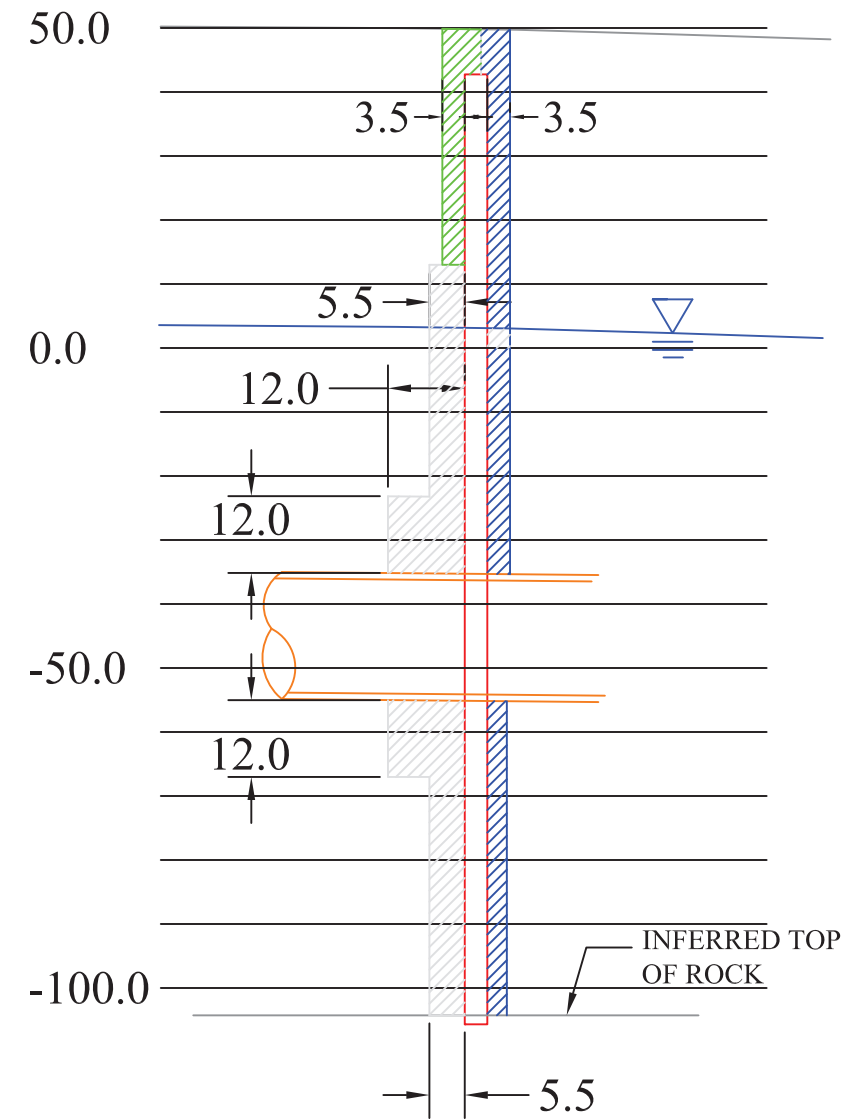
OUR TEAM

Our team consists of individuals with the highest qualifications for geotechnical and structural instrumentation and monitoring projects, combining individuals from a variety of disciplines and backgrounds.

- ❑ **John Wang**, P.E., M.S. in Structural and Geotechnical Engineering
- ❑ **Jennifer Wang**, J.D.
- ❑ **Yee Huang**, P.E., B.S. in Civil Engineering
- ❑ **Raymond Tjoa**, P.E., M.S. in Mechanical Engineering
- ❑ **Ashley Anderson**, M.S. in Environmental Science
- ❑ **Niels Jensen**, P.E., Ph.D. in Civil Engineering
- ❑ **Jimmy Chang**, Ph.D. in Mechanical Engineering
- ❑ **Oscar Tapias**, P.E., M.S. in Civil Engineering
- ❑ **Andrew Che**, B.S. in Electrical Engineering
- ❑ **Sherry Chan**, P.E., M.S. in Civil & Environmental Engineering
- ❑ **Partha Medhi**, B.S. in Mechanical Engineering
- ❑ **Peter Laskaris**, B.S. in Mechanical Engineering
- ❑ **Bilal Tahir**, B.S. in Mechanical Engineering
- ❑ **Yat Man Tsui**, B.S. in Mechanical Engineering
- ❑ **Charlie George**, M.S. in Geophysics and Geotechnical Engineering
- ❑ **Bryan Hom**, B.S. in Information Technology
- ❑ **Jenny Lau**, B.S. in Civil Engineering
- ❑ **Jose Dominguez**, B.S. in Civil Engineering



NORTH HEADWALL
JET GROUT (PILE SUPPORT) LAYOUT



ELEVATION NORTH HEADWALL

DATE	DESCRIPTION	REV. NO.	BY	CHECKED	APPROVED
4/16/13	JET GROUT LAYOUT & PROFILE - NORTH HEADWALL		KEB		
5/13/13	JET GROUT LAYOUT & PROFILE - NORTH HEADWALL		KEB	KEB	
5/20/13	JET GROUT PILE SUPPORT LAYOUT - NORTH HEADWALL		KEB	KEB	
5/28/13	JET GROUT PILE SUPPORT LAYOUT - NORTH HEADWALL		KEB	DEA	

JG LAYOUT SCALE = 1"=16'
ELEVATION SCALE = 1"=30'



C:\Users\KeithBr\Desktop\Misc\21134 CJA-NCC Logo.jpg

PHASE 2 - CENTRAL SUBWAY
TUNNELS

UMS STATION - NORTH HEADWALL
JET GROUT PILE SUPPORT LAYOUT

1252

SFMTA CONTROL NO.

DRAWING NO.

REVISION

SHEET NO.

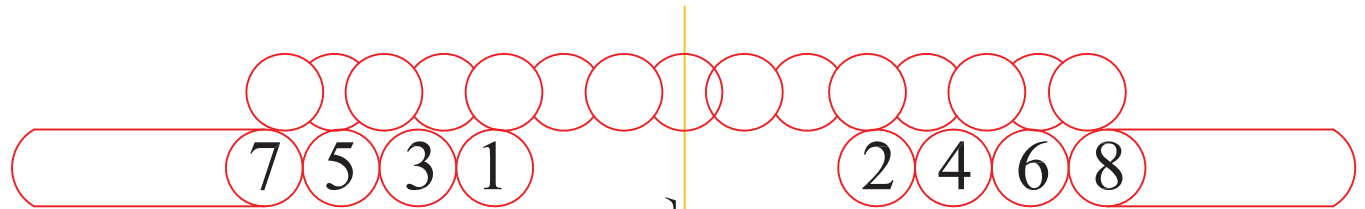
PILES TO BE DRILLED WITH
OSCILLATOR

VERTICAL PILES



CTL

BATTERED PILES



CTL

DATE	DESCRIPTION	REV. NO.	BY	CHECKED	APPROVED
4/14/13	UMS PILE SEQUENCE - NORTH HEADWALL		DEA	TB	
5/10/13	UMS PILE SEQUENCE - NORTH HEADWALL		DEA	TB	

SCALE 1"=10'



PHASE 2 - CENTRAL SUBWAY
TUNNELS

UMS STATION
JET GROUT ANGLED LAYOUT & PROFILE

SHEET CONTROL NO.	
DRAWING NO.	REVISION
SHEET NO.	

Barnard Impregilo Healy JV

TRANSMITTAL

No. 01583

PO BOX 78270
San Francisco, CA 94107

Phone: 415-546-0799
Fax: 415-546-3822

PROJECT: Contract 1252 - Tunnels

DATE: 5/13/2013

TO: SF Municipal Transportation Agency
821 Howard Street
San Francisco, CA 94103

REF: UMS North Headwall Workplan
Sub. #: 31 62 13.15-013

ATTN: Sarah H. Wilson

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
<input type="checkbox"/> Shop Drawings	<input checked="" type="checkbox"/> Approval	<input type="checkbox"/> Approved as Submitted
<input type="checkbox"/> Letter	<input type="checkbox"/> Your Use	<input type="checkbox"/> Approved as Noted
<input type="checkbox"/> Prints	<input type="checkbox"/> As Requested	<input type="checkbox"/> Returned After Loan
<input type="checkbox"/> Change Order	<input type="checkbox"/> Review and Comment	<input checked="" type="checkbox"/> Resubmit
<input type="checkbox"/> Plans		<input type="checkbox"/> Submit
<input type="checkbox"/> Samples	SENT VIA:	<input type="checkbox"/> Returned
<input type="checkbox"/> Specifications	<input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Returned for Corrections
<input checked="" type="checkbox"/> Other: Made from Submittal	<input type="checkbox"/> Separate Cover Via: Mail	<input type="checkbox"/> Due Date:

ITEM NO.	COPIES	DATE	ITEM	NUMBER	REV. NO.	DESCRIPTION	STATUS
1	5	5/13/2013	SUT	31 62 13.15-013	003	UMS North Headwall Workplan	NEW

Remarks: We are submitting a revised Secant and Tangent Pile Work Plan for the UMS North Headwall which addresses SFMTA comments from Review cycle 002.

CC:

Signed: _____
Glenn Strid

Barnard Impregilo Healy JV

SUBMITTAL

NO. 31 62 13.15-013

PO BOX 78270
San Francisco, CA 94107

Phone: 415-546-0799
Fax: 415-546-3822

PACKAGE NO: 316213.15

TITLE: UMS North Headwall Workplan

REQUIRED START: 5/13/2013

PROJECT: Contract 1252 - Tunnels

REQUIRED FINISH: 6/10/2013

DRAWING:

DAYS HELD: 0

STATUS: NEW

DAYS ELAPSED: 25

BIC: SFMTA

DAYS OVERDUE: -28

RECEIVED FROM		SENT TO		RETURNED BY		FORWARDED TO	
CJANCC	TBA	SFMTA	SHW	SFMTA	SHW	CJANCC	TBA

Revision						Drawing			
No.	Description / Remarks	Received	Sent	Returned	Forwarded	Status	Sepias Prints	Date	Held Elapsed
001	UMS North Headwall Workplan	4/18/2013	4/18/2013			NEW	0 0		25 25
002	UMS North Headwall Workplan This revision elaborates on the methods for achieving and verifying the verticality tolerances of the secant piles with the "Jet Grout as Casing" method.	4/26/2013	4/26/2013	5/6/2013	5/6/2013	DIS	0 0		0 10
003	UMS North Headwall Workplan	5/13/2013	5/13/2013			NEW	0 0		0 0

Condon Johnson & Associates/ Nicholson
Construction A Joint Venture
480 Roland Way, Suite 200
Oakland, California 94621
(510) 636-2100



Submittal

Submittal 110: UMS Workplan - North Headwall

APPROVERS (ASSIGNEES):

Strid, Glenn (Barnard Impregilo Healy Joint Venture)

CREATED BY:

Dan Alford

PROJECT:

Phase II Central Subway Contract 1252
San Francisco, California.
United States

ISSUE DATE:

05/10/13

PROJECT NUMBER:

JV No. 21134

SUBMITTAL NO / REVISION:

110 / 2

COST CODE:

STATUS:

Open

SUBMITTAL TYPE:

BALL IN COURT:

Strid, Glenn (Barnard Impregilo Healy Joint Venture)

SPEC SECTION:

31 62 13.15 -

RECEIVED FROM:

Dan Alford (CJA-NCC Joint Venture)

RECEIVED DATE:

COPIES TO:

Morris, Mike (CJA-NCC Joint Venture)
Crews, Pati (CJA-NCC Joint Venture)
Calando, Mikael (CJA-NCC Joint Venture)
Bizzack, Keith (CJA-NCC Joint Venture)
Baddeley, Thomas (CJA-NCC Joint Venture)

REQUESTED REPLY DATE:

DESCRIPTION:

Answers to SFMTA Comments - 5/6/13 & Updated UMS North Headwall Workplan

REFERENCES / ATTACHMENTS

- [UMS Workplan - NHW_5-13-13.pdf](#)

APPROVER RESPONSES

APPROVER NAME	DATE SENT	DATE RETURNED	STATUS	ATTACHMENTS	COMMENTS
Glenn Strid	05/10/13		Pending	None	

BY

DATE

COPIES TO

ANSWERS TO SFMTA COMMENTS FROM 5/6/13

SFMTA comments in *italicized black*, CJA/NCC-JV comments in **bold blue**

1. *Please provide a revised layout of the jet grout columns, showing minimum and maximum extents relative to secant and tangent piles.*

Refer to Appendix II of the UMS North Headwall Workplan for the revised layout of the jet grout columns.

2. *Please provide justification for the assertion that the jet grout will act as a casing and will mitigate any settlement concerns associated with drilling of piles.*

Refer to Appendix III of the UMS North Headwall Workplan for calculations justifying that the jet grout will act as a casing and mitigate any settlement concerns.

3. *What measures will be taken to confirm that caving does not occur during the augering process and, if caving occurs, what measures will be taken to mitigate caving?*

A koden verticality report will be performed during, and after, the drilling process which will confirm verticality as well as show shaft wall stability. If caving does occur, the pile will be drilled under a slurry head and shaft wall stability will be confirmed prior to placing reinforcement. Verbage added to the Workplan.

4. *Please clarify proposed sequence of pile excavation and concrete installation.*

Refer to Appendix VI of the UMS North Headwall Workplan for the proposed sequence of pile installation.

5. *Please confirm that steel casings will be used to install battered piles; otherwise, demonstrate capacity (integrity) of surrounding jet-grouted soil to support loads imposed by soils (and surcharge loads from equipment) above.*

Temporary steel casings will be used to install battered piles. Verbage added to the Workplan.

6. *Please confirm that pile sequence (Appendix IV) will be revised to reflect swapping of primary and secondary piles (per RFI No. 00253).*

Refer to Appendix VI of the UMS North Headwall Workplan for the proposed sequence of pile installation as it relates to RFI 00253.

31 62 13.15 – Secant and Tangent Piles -- North Headwall

1. List of proposed materials and equipments to be used including, but not limited to, cranes, drills, augers, casings, casing oscillators, hydraulic casing rotators, bailing buckets, final cleaning equipment, dewatering, tremies, and concrete pumps;

Proposed material list:

Drilling Slurry:	None
Concrete Backfill:	5,000 psi ready-mix concrete (Primary piles: submittal # 31 62 13.15-005; Secondary/tangent piles: submittal # 31 62 13.15-002)
Spacers:	Primary piles: See submittal # 31 62 13.15-008; Secondary/tangent piles: See submittal # 03 20 00-009 & RFI # 00218
Steel Reinforcement:	Per plans and specs (see submittal # 03 20 00-003)
GFRP Reinforcement:	Per plans and specs (see submittal # 03 20 00-003)
Access Tubes:	Per plans and specs (refer to RFI # 00224.1)
Grout & Jet Grout:	As submitted under 31 32 13.36-002

Proposed Equipment List (Appendix I):

Drill Rig:	BG-40, SR-100 (or equivalents)
Oscillator:	Leffer VRM 120 KL; 1.2 M
Pilot Hole Drilling:	Boart Longyear Sonic Drill (or equivalents); Klemm 806 (or equivalents)
Crane:	Linkbelt, LS-218H 100-Ton Capacity (equivalent, or Larger)
Concrete Pump:	Schwing KVM 32 XL (or equivalent)
Air Compressor:	IR Air Source Plus – 41RX3T 185 cfm (or equivalent)
Trash Pump:	Godwin CD100M Dri-Prime Pump (or equivalent)
Vacuum:	Industrial Vacuum Hurricane 400 (or equivalent)
Slurry Tanks:	Approx. 3 each – Baker 21,000 gallon
Forklift:	Skytrak Model 10042 (or equivalent)
Excavation Tools:	42” Auger 42” Clean-out Bucket
Tremie:	4” min. segmental steel tremie pipe with wire lock fittings
Casing:	Dual-Wall: 1.2 M (47.25”) Outside-Diameter, 44” Inside-diameter sectional” various lengths

2. Details of equipment layout, and overall construction operation sequence and the sequence of secant headwall construction;

Equipment shall be staged within the closed portion of the roadway in such a manner to maintain the 14ft. emergency lane. Jet grouting equipment will be mobilized to the north headwall. Jet grouting at the north headwalls will be installed which will encompass the limits of the ground improvement program as well as the secant and tangent headwall footprint (see shop drawing in

Appendix II). Jet grouting will be extended up to the existing ground surface to mitigate any settlement concerns associated with drilling of the piles (see Appendix III for jet grout design/hole stability calculations).

Pilot holes will either be drilled by a double rotary Klemm or a Sonic drill utilizing a 6-8” continuous core barrel at each pile location as necessary. An inclinometer, sonic device or equivalent will be used to survey the pilot-hole verticality. It is anticipated to either use the Shape Accel Array or inclinometer to survey each hole (see Appendix IV for instrumentation). After completion of the pilot hole, the hole will be backfilled with sand. In the event the pilot-hole verticality is out of tolerance, the hole will be backfilled and re-drilled. Following the pilot-hole drilling operation, the secant piling operation will begin.

Shaft excavation sequence for the piling operation will commence generally in the following sequence:

1. Primary Piles with Steel Beam Sections will be installed first. Adjacent Primary Piles will be drilled within one to two days of each-other. Once adjacent primary piles are completed, the secondary pile between them will be installed.
2. The Drill Rig will have a spud on the auger to follow the pilot-hole to advance the shaft to specified tip (see shop drawing in Appendix V). As necessary an inclinometer, sonic device or equivalent will be used to survey the pile verticality and to ensure the drill hole has not collapsed. A verticality report will be performed during, and after, the drilling process which will confirm verticality as well as show shaft wall stability. It is anticipated to use the Koden for testing (see Appendix II). If caving does occur, the pile will be drilled under a slurry head and shaft wall stability will be confirmed prior to placing reinforcement.
3. If holes are not dry, water will be allowed to settle out solids, cleaned, replaced (as necessary) and tested to verify the recommended parameters (per ACI 336.1) prior to installation of structural steel beams or steel reinforcement cages.
4. Once all drilling needs are complete at the current pile, the drill crew may advance to the next pile to begin drilling and begin the repeat of this process. It is anticipated to drill the secant piles in a block sequence as shown in Appendix VI, or as approved by Engineer. Where it may be required, an oscillator, along with the drill, will be utilized to install the secondary piles, as well as the battered tangent piles, by advancing 1.2M segmental casing to specified tip.
5. Place steel reinforcement after shaft inspection and acceptance.
6. Verify cage/beam alignment and location of structural steel reinforcement at-grade hangers
7. Place concrete tremie pipe and begin concrete placement once adequate quantity of concrete is present on-site. Concrete placement will be logged for theoretical vs. actual

concrete placed. If there is water in the shaft, it will be removed by pumping off the top of the pile if needed. Water will be stored in on-site 21,000 gallon storage tanks.

8. Place concrete to approximately one to two-feet above pile cutoff elevation. Once concrete placement is complete at the current shaft(s), placing equipment may advance to the next pile to begin the next pile concrete placement operation.
9. This process will be repeated until all of the piles are complete for a phased area.

3. Drawings describing the sequence of pile installations;

See Appendix IV for CJA-NCC's shop drawing depicting the sequence of pile installations.

4. Details of methods to survey piles for vertical alignment and inclined position, and method to correct if piles are not within specified tolerances herein.

As necessary an inclinometer, sonic device or equivalent will be used to survey the pilot-hole as well as the pile verticality or inclination.

If the drilled pile is out of verticality (or inclination) tolerance, a core barrel might be used to correct the verticality (or inclination) of the pile. A core barrel might be implemented to "shave" the sides of a pile to correct alignment and/or position. If it is found that the shaving method will not work, the pile will be backfilled with lean mix and re-drilled.

5. Details of drilling methods, operations and excavation through all materials encountered within construction area, as described in the Geotechnical Baseline Report (GBR).

The use of full-length jet grouting at the north headwall will ensure that the shafts can be drilled to tip without caving.

Excavation of Secant and Tangent Piles is to be performed with a telescoping Kelly Bar type drill rig and oscillator as needed. Temporary steel casings will be used to install the battered tangent piles.

Drilling methods will be dictated based on the conditions expected at the shaft locations, ground conditions, water level, and physical limitations of the project site or required construction equipment. If groundwater is encountered, the shaft will be flooded with water and the water level maintained at a minimum of 10-ft above the encountered groundwater in order to maintain a hydro-static head.

The required conventional drill tooling is a function of the in situ material encountered. Drill tools to be employed may include:

1. Flight Auger – this auger cuts the required shaft diameter using dirt or rock 'teeth'. The auger is drilled into the ground until resistance at which point the tool is retracted and the

material spun-off of the tool. The process is repeated until the specified tip elevation is obtained or conditions change.

2. Core Barrel – a core barrel is an open-ended tool with rock ‘teeth’ affixed to the perimeter. This tool is used to grind through rock the required diameter or re-align a shaft should alignment deviate from plumb. The core barrel spoils may be compacted in the core barrel or extracted with the use of a flight auger or digging bucket. The use of the core barrel is alternated with another auger as necessary until the specified tip elevation is obtained or conditions change.
3. Digging Bucket – typically utilized in wet-hole conditions, a digging bucket uses dirt or rock ‘teeth’ along the cutting edge at the bottom of the tool. Shaft spoils are captured through a one-way door into the bucket. The tool excavates until resistance, retracted to the surface where the latch to open the bottom of the bucket allows the spoils to be released. The process is repeated until the specified tip elevation is obtained or conditions change.
4. Spin-bottom – typically utilized in wet-hole conditions, the spin bottom is utilized once the specified tip elevation is obtained. The spin bottom will capture the loose fines that collect at the bottom of a shaft to insure a level, clean shaft tip. Multiple passes maybe required depending on the soil conditions and level of suspended solids.

ITEM #	DISCUSSION	ACTION BY DUE DATE
	<p>the Designer prior to being forward to the Deputy Program Manager for review. A detail presentation will be given at next week's meeting of DP2 and DP1 cost breakdown by category. <i>04/17:</i> An expanded summary spreadsheet was presented showing the break out of the categories for work under subtask 16.30 and 16.40 for - work completed to date, remaining work and reasons for overruns to support the reason for request for additional \$10K in funds. The CMB suggested the CM team put the Contractor on notice that any submittal regarding design substitution for review will be at the Contractor's expense. In addition the CMB requested a presentation of the DP1 Task 16 Design Services hours and cost detail summary also be brought to the CMB for review when finalize. This item will be brought back to next week's CMB. <i>Status: 05/15 This item was not discussed at this week's meeting.</i></p>	
<p>1- 05/08/13</p>	<p>1252- Submittal 31 74 17-025 Segments Spalls Repair Procedure, Rev 2 was presented for approval of response comments to SFMTA's review of Rev1 for the proposed Spalling Repair Procedure for stress relief portions of the tunnel segments (yellow and superficial) spalling. The Contractor submitted a revised submittal to address SFMTA's seven points of concerns (see attached). The CMB took exception to the revised submittals deficiency in demonstrating the repair procedure and missing information recommending the proposed design mix for the repairs. In addition a second Submittal 31 74 17-026 Segment Liner Alternate Repair Method data sheet proposing a new repair product CTS <i>Rapid Set Mortar Mix</i> as a possible alternate patching material for minor segment chips/spalls to the previously proposed <i>Speedcrete Red Liner Mortar</i> was submitted. The CMB recommend that the CM Team request revised submittals demonstrating a clear line of responsibility for the design liability and a comprehensive and cohesive approach to repairs that specifically respond to the original comments. This item will be brought back to the CMB at a later date. <i>Status: 05/15 This item was not discussed at this week's meeting.</i></p>	<p>ML 05/22/13</p>
<p>2- 05/08/13</p>	<p>1252 – M. Benson requested approval for negotiation position for COR79 Compensation Grout – Old Navy additional cost associated with inefficiencies of installing the compensation grout tubes. Justification was based on the premise that the larger piece of equipment could have performed the work if the in place utilities had been found as shown in the Bid documents. Because of the actual configuration of underground utilities was much different than that shown on the Bid documents, payment is warranted for the inefficiencies caused by utilizing the smaller piece of equipment. The CMB raised several questions about the graphical depiction of the As Bid condition and requested that the graphical representation be properly updated to show the As Bid condition. Similarly, the actual condition graphic could be improved to better show actual conditions found. Detailed information demonstrating the cost of the inefficiency appear in order, however the requested NTE amount was not properly justified compared to the computed cost by the Engineer. The CMB was unable to provide approval due to the still open question that the utility obstructions potentially indicate the Contractor should have brought in a smaller rig to begin with. CMB suggested improved graphics and supporting information be developed to justify the requested negotiating position. This item will be brought back to the CMB next week. <i>Status: 05/15 A revised graphic was shown depicting the actual condition shown found incorporating the second PG&E 12" electrical line. Further determination from the BP dwgs indicates the Contractor could have actually accomplished the work by using the original larger Klemm machine as listed in the bid proposal. AGREE – CMB 0117 Not to exceed value of \$152,000 to be negotiated as a lump sum for inefficiencies associated with having to use a smaller drill rig to work around the existing utilities. In addition the CM Team will obtain the invoice from the Contractor to identify the actual cost for the rental of the smaller Comacchio drill rig.</i></p>	
<p>5- 05/08/13</p>	<p>1252 – M. Benson requested negotiation position for PCC 06 cost comparison of Additional BART Tunnel Instrumentation (see attached). The CMB expressed concerned that the \$624K price to perform the work was too high and requested Jane Wang to</p>	<p>JW 05/22/13</p>



HAMMER & STEEL, INC.
 Steel & Piling Equipment
 401 West Channel Road
 Benicia, CA 94510
 1-877-224-3356
 707-746-7821 - Fax

EQUIPMENT RENTAL AGREEMENT

DATE: May 1, 2013
 PROJECT:
 LOCATION:
 OWNER:
 GENERAL CONTRACTOR:
 CONTRACT #:
 H & S SHIPMENT#

TO: Condon Johnson (CIA-NCC Joint Venture)

2134-CC

ATTN: Tom Baddeley

FAX#

HAMMER & STEEL, INC., the LESSOR, agrees to rent the above captioned customer, the LESSEE, the equipment shown below. This equipment is to be used only for the project described above. Lessor and Lessee agree to all the terms and conditions set forth in this agreement in six pages.

ITEM	VALUE	RENTAL RATE
Comacchio CM 602 SN 1987	\$348,000	\$18,000/month
Operator Training \$110.00/hour plus travel expenses		\$110.00/hour plus travel expenses
Transport Charge to Be Determined		TBD
Purchase Option Payment Plan Attached		
Sales tax, Insurance and transport not included.		

Lessee agrees to rent the subject equipment for a minimum of _____
 Lessee agrees to pay transportation charges from, and back to Lessor's shipping point.

SHIP TO:

RETURN TO:

HAMMER & STEEL, INC.
 401 WEST CHANNEL ROAD
 BENICIA, CA 94510

If an Option to Purchase has been granted, such Option shall be an Integral part of this agreement.

Please read all pages of this document carefully.

CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Trend Log

Current Cost Estimate and Allocated Contingencies										
Item #	Date Initiated		Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact	Comments	Contract Modification Number
						Approval Action	Approval Date	+Exposure/(Benefit)		
Actual/Forecast										
CONSTRUCTION TRENDS										
Contract 1250 - Utilities Relocation #1 (Portal & MOS)										
1250-0001	04/15/10	081-0001	Delete Option MF-OPT1 "Fire Protection Sprinkler System"	1	N/A			(50,000)	Cleared City Attorney's Office; to Shahnam for execution. [In "Current Forecast" - Sep2010 Cost Report.] COMPLETE, NO FURTHER ACTION; CMOD #1	CMOD #1 Approved
1250-0002	05/07/10	081-0002	Changes to Sewer on 4th between Howard and Folsom	2	CMB-0001	Agree	07/12/10	+107,174	Differing conditions as AWSS is directly over existing sewer; unable to install sewer manhole per plan. [In "Current Forecast" - Sep2010 Cost Report.] No reimbursement from SFPUC Sewer. COR #2-\$34,135; COR #5-\$73,039 COMPLETE, NO FURTHER ACTION; CMOD #2	CMOD #2 Approved
1250-0003	05/28/10	081-0003	Quantity Adjustment for JT-6 and JT-7	4	CMB-0002	Agree	08/04/10	+192,420	In April 2010 pay app, JT-6 bid qty exceeded by 344% (230 vs. 1021) and JT-7 bid qty exceeded by 112% (500 vs. 1060) [In "Current Forecast" - Sep2010 Cost Report.] COMPLETE, NO FURTHER ACTION; CMOD #3	CMOD #3 Approved
1250-0004	07/02/10	081-0004	Demolition of existing brick and concrete footing on 4th between Howard and Folsom	2	CMB-0003	Agree	07/12/10	+170,000	Unforeseen bricks and concrete footing discovered on east side of 4th Street between Folsom and Howard. [In "Current Forecast" - Sep2010 Cost Report.] COR #3-RFI #76 COMPLETE, NO FURTHER ACTION; CMOD #4	CMOD #4 Approved
1250-0005	04/20/10	081-0005	Modify AWSS at 4th/Bryant and 4th/Harrison	3	CMB-0004	Agree	08/04/10	+586,000	At 4th/Bryant, AWSS conflict with new 48" sewer and AT&T duct bank. At 4th/Harrison, AWSS conflict with 18" sewer. [In "Current Forecast" - Sep2010 Cost Report.] No reimbursement from SFPUC AWSS. PCC #2: RFI #s 34, 49 & 51 COMPLETE, NO FURTHER ACTION; CMOD #5	CMOD #5 Approved
1250-0006	04/29/10	081-0006	Install four additional piles and reinforce existing foundation at 401 4th Street	2	CMB-0005	Agree	08/25/10	+130,000	Existing foundation was discovered to be part brick and part concrete, which is different from plan. Also, foundation was unstable and required additional reinforcement. Refer to RFIs #85R1, 88.1, 100, 101, 102 COMPLETE, NO FURTHER ACTION; CMOD #6	CMOD #6 Approved
1250-0007	10/06/10	081-0007	Additional work to install 48" sewer due to various utility conflicts at 4th/Bryant	2	N/A			+32,964	48" RCP sewer in conflict with existing AT&T duct bank that needs to remain in service until new joint trench is installed to enable switchover. This conflict forced contractor into a more expensive means to install sewer. Also, 48" RCP sewer in conflict with existing 30" force main and 24" steel pipes. No reimbursement from SFPUC Sewer. COMPLETE, NO FURTHER ACTION; CMOD #9	CMOD #9 Approved
1250-0008	10/06/10	081-0008	Relocate TPC vault on 4th Street between Howard and Folsom	6	N/A			+19,500	Contractor uncovered existing TPC conduits on top of AT&T duct bank on 4th near Howard, a differing site condition. An AT&T intercept vault is to be installed, however, TPC conduits can not reside inside AT&T intercept vault. Joint Trench utilities participation cost TBD. Executed on 10/14/2010. Refer to RFI #62 (\$19,500) Expected Reimbursement from TPC. RE has provided documentation of notification to TPC, July-August '10. See final 1250 Form B actual costs COMPLETE, NO FURTHER ACTION; CMOD #8	CMOD #8 Approved

- 1 - Owner Directed Change in Scope
- 2 - Unforeseen Conditions
- 3 - Errors and Omissions
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- 7 - Other

CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number
					Approval Action	Approval Date	Actual/Forecast		
1250-0009	10/06/10	081-0009 Install additional sewer and provide temporary connections at 4th/Stillman	3	N/A			+47,000	Location of existing sewer to be intercepted differs from where it's shown in the plan, hence additional sewer to be installed. Also, due to optional sewer MH not buildable until (E) AT&T DB is removed, additional sewer is necessary to tie into (E) main as interim. New sewer is supposed to tie into optional MH. No reimbursement from SFPUC Sewer. RFI #91 COMPLETE, NO FURTHER ACTION; CMOD #7	CMOD #7 Approved
1250-0010	10/06/10	081-0010 Perform AT&T wye cast connection and chipping of existing duct bank at various locations	6	N/A			+48,181	AT&T was supposed to tie-in its own facility. However, AT&T's contractor, who is hired to install vaults, stated it is not in their scope of work. Refer to RFI #82.1. AT&T intercept vault at 4th/Harrison can not be installed at design location due to utility conflicts. AT&T vault to be shifted a few feet instead of vault being on top of existing duct bank. This will cause additional excavation, joint trench and modification to existing duct bank. Joint Trench utilities participation cost TBD. SFMTA and AT&T are negotiating with Contractor. (\$48,181) Expected Reimbursement from AT&T. RE has provided documentation of notification to AT&T, Sept-Oct '10. See final 1250 Form B actual costs. COMPLETE, NO FURTHER ACTION; CMOD #10	CMOD #10 Approved
1250-0011	10/06/10	081-0011 Remove existing piles and shoring at 801 Howard	2				-0-	This change order has been incorporated in CMOD #16 (Trend #30) COMPLETE, NO FURTHER ACTION; CMOD #16	CMOD #16 Approved
1250-0012	10/06/10	081-0012 Additional work related to AT&T facilities due to unforeseen conditions.	6	CMB-0047	Agree	08/03/11	-0-	This is the total of all force account work related to AT&T facility. SFMTA to seek reimbursement from AT&T through the Form B process. (\$67,798) Expected Reimbursement from AT&T. Cost captured in Trend #15 COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20 Approved
1250-0013	10/06/10	081-0013 Additional work related to PG&E facilities due to unforeseen conditions.	6	CMB-0047	Agree	08/03/11	-0-	This is the total of all force account work related to PG&E facility. SFMTA to seek reimbursement from PG&E through the Form B process. (\$30,547) Expected Reimbursement from AT&T. Cost captured in Trend #15 COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20 Approved
1250-0014	10/06/10	081-0014 Remove brick wall at sewer sta 152+94 (west side) on 4th between Howard and Folsom.	2				-0-	This change order has been incorporated in CMOD #16 (Trend #30) COMPLETE, NO FURTHER ACTION; CMOD #16	CMOD #16 Approved
1250-0015	10/06/10	081-0015 Archaeological Findings - Charges for rental of steel plates, triton barriers, shoring and labor for maintenance.	2				+784,771	Midden deposits were discovered on 4th Street between Howard and Folsom. Contractor stopped work. Contractor requesting payment for rental charges of trench plates, barricades, and shoring, and cost of maintenance. Total cost exposure is projected through end of November 2010. The \$290,703.00 is expected to be the final estimate for the rental of trench plates, barriers and shoring. \$597,000 Arch, \$179,000 DIFF, \$8,500 Traffic COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20
1250-0016	10/06/10	081-0016 Additional AWSS modification at 4th/Harrison	1	CMB-0016	Agree	11/10/10	+156,418	New alignment is proposed by Design team. No reimbursement from SFPUC AWSS. COR #33 Supplemental COMPLETE, NO FURTHER ACTION; CMOD #12	CMOD #12 Approved
1250-0017	10/06/10	081-0017 Protection Work at PG&E Vault 1611	6				-0-	Expected Reimbursement from PG&E or work to be deferred \$6,400. RE has notified PG&E via email dated 10/29/10 that SFMTA expects full reimbursement for this work if implemented. Follow-up pending. Work was not performed and will need to be addressed in a future contract.	
1250-0018	10/06/10	081-0018 Demolition and Support Work at PG&E Vault 1611	6				-0-	Expected Reimbursement from PG&E or work to be deferred \$25,000. RE has notified PG&E via email dated 10/29/10 that SFMTA expects full reimbursement for this work if implemented. Follow-up pending. Work was not performed and will need to be addressed in a future contract.	
1250-0019	10/06/10	081-0019 Extended overhead delay claim due to Archaeological discoveries	2					Old Note: Potential delay claim if issue extends project duration. Amount is estimated at \$3,000.00 per day for 60 days (\$180K). New Note: By exercising all option work, additional 84 calendar days is added to the contract time. In addition, midden mitigation will start on 10/7/10. As a result, the potential for extended overhead cost is averted. This trend has been superseded by Trend #37. COMPLETE, NO FURTHER ACTION	

- 1 - Owner Directed Change in Scope
- 2 - Unforeseen Conditions
- 3 - Errors and Omissions
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- 7 - Other

CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number
					Approval Action	Approval Date	Actual/Forecast		
1250-0020	10/06/10	081-0020	3				+39,062	Inverts of existing sewer where new sewer will tie into are found to be different than shown in plan and would create a reverse slope. Additional pipe and manhole are required to fix slope. Refer to RFI Nos. 2S01 and 147. No reimbursement from SFPUC Sewer. COMPLETE, NO FURTHER ACTION; CMOD #11	CMOD #11 Approved
1250-0021	10/06/10	081-0021	2					Existing AWSS lateral at SW 4th/Harrison is in conflict with new 18" sewer. Instead of modifying the lateral to avoid the sewer, a new lateral at NW corner is a preferred solution. CM awaiting design revision from Design team. Trend No. 21 is combined with Trend No. 22.	
1250-0022	10/06/10	081-0022	2	CMB-0026	Agree	01/12/11	+160,908	AWSS Point of connection on 4th Street was found to be cast iron instead of ductile iron as shown in DPW as-built. Due to this differing condition, additional length of pipe needs to be replaced and lead joint to be installed in order to install a ductile iron tee. Also, existing AWSS hydrant lateral is in conflict with new 18" sewer. The preferred solution was to install a new ductile iron lateral at a different location rather than installing vertical offsets on an existing cast iron lateral. No reimbursement from SFPUC AWSS. COMPLETE, NO FURTHER ACTION; CMOD #15	CMOD #15 Approved
1250-0023	10/06/10	081-0023	3				+24,981	Sewer at Clementina was delayed by 2 months due to PG&E vault conflict. PG&E will not pay cost of steel plates and shoring standby because PG&E drawings were sent to MTA during design phase and PG&E was not made aware of the conflict then. COMPLETE, NO FURTHER ACTION; CMOD #13	CMOD #13 Approved
1250-0024	10/06/10	081-0024	6	CMB-0048	Agree	08/24/11	+95,311	Contract specs specified AT&T to compensate contractor directly for workaround & support. AT&T refused to pay Synergy. Synergy considers AT&T's refusal as a changed condition to CN 1250 contract. (\$95,311) Reimbursement from AT&T. See Final 1250 Form B actual costs. COMPLETE, NO FURTHER ACTION; CMOD #19	CMOD #19 Approved
1250-0025	10/06/10	081-0025	6					Contract specs specified PG&E to compensate contractor directly for workaround & support. PG&E negotiated \$100,000 directly with Synergy and will pay synergy directly as well.	
1250-0026	10/06/10	081-0026	3	CMB-0028	Agree	02/09/11	+66,510	Total cost known to date (10/5/10) of all SFWD support and workaround. See COR #12, 20, 32 and 35. Agreed amount is total of COR #12, 20 and 32. Total exposure is equal to agreed amount plus COR #35. No reimbursement from SFWD. COMPLETE, NO FURTHER ACTION; CMOD #14	CMOD #20 Approved
1250-0027	10/06/10	081-0027	2				-0-	Synergy is asked to provide trucking for delivery of midden soil to Sonoma State University lab. Other support work includes traffic control, plating, loading and unloading of midden soil. The amount shown are charges up to end of November 2010 only. Additional charges are expected which will be tracked as Trend No. 28. COMPLETE, NO FURTHER ACTION	CMOD #20 Approved
1250-0028	12/08/10	081-0028	2				-0-	Synergy is asked to provide trucking for delivery of midden soil to Sonoma State University lab. Other support work includes traffic control, plating, loading and unloading of midden soil. The amount shown are expected charges beyond November 2010. COMPLETE, NO FURTHER ACTION	CMOD #14 Approved
1250-0029	12/08/10	081-0029	4	CMB-0036	Agree	05/04/11	+112,500	Bid item UD-10 is to pay for excavation of connection hole and kill hole for SFWD line. Contract only included 200 cubic yard for this work. The size of excavations is dictated by field conditions and per the direction of SFWD inspector. RE's estimate of the total volume of dirt to be excavated is 630 cy. Examples of differing conditions encountered are: location of existing water line is different than where it's shown in the plan, existing waterline where shown in the plan to be connected to is inactive, differing condition at 5th/Clementina, connection holes and kill holes need to be expanded due to other utilities in the way. COMPLETE, NO FURTHER ACTION; CMOD #17	CMOD #17 Approved

- 1 - Owner Directed Change in Scope
- 2 - Unforeseen Conditions
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- 7 - Other

CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number
					Approval Action	Approval Date	Actual/Forecast		
1250-0030	12/08/10	081-0030 Supplement bid item GE-4 "Allowance for differing site conditions" related to the installation of publicly owned facilities only (sewer, water, AWSS, Joint trench)	4	CMB-0030	Agree	04/13/11	+235,595	This change order is to supplement GE-4 for cost overrun related to the installation of publicly owned infrastructure only. GE-4 cost overrun for installation of privately owned infrastructure is being tracked separately and a separate change order will be issued. COMPLETE, NO FURTHER ACTION; CMOD #16	CMOD #16 Approved
1250-0031	12/08/10	081-0031 Unused allowance for bid item GE-8 "Allowance for cast-in-place utility vaults"	4				-0-	Bid item GE-8 is an allowance to pay contractor for designing and constructing cast-in-place manholes as required for installation of new systems. Only one CIP vault was installed. Credit amount included in Trend #43	
1250-0032	12/08/10	081-0032 Unused allowance for bid item UD-5 "Handling and disposal of Class I Hazardous Waste"	4				-0-	Bid item UD-5 is an allowance to pay contractor for handling and disposal of Class I Hazardous Waste. No class I hazardous waste was off hauled away from the job site. Class I soil found under the I-80 freeway was put back in the trench as backfill. This bid item is expected to remain unused. However, contractor is claiming to recover "General Conditions" cost. Credit amount included in Trend #43	
1250-0033	12/08/10	081-0033 Unused allowance for bid item UD-6 "Transportation of Class I Hazardous Waste"	4				-0-	Bid item UD-6 is an allowance to pay contractor for transporting of Class I Hazardous Waste. No class I hazardous waste was off hauled away from the job site. Class I soil found under the I-80 freeway was put back in the trench as backfill. This bid item is expected to remain unused. However, contractor is claiming to recover "General Conditions" cost. Credit amount included in Trend #43	
1250-0034	12/08/10	081-0034 Cost overrun for bid item TR-6 "Allowance for manual traffic control"	4	CMB-0037	Agree	05/04/11	+68,820	Bid item TR-6 is an allowance to pay for off-duty police officers and parking control officers. Contract allowance amount is \$50,000.00. Contract specs calls for police officers at 4 intersections (4th/Howard, 4th/Folsom, 4th/Harrison and 4th/Bryant). The average cost of 1 police officer is about \$800.00 per day (\$100.00 per hour). The \$50,000.00 allowance is only good for 60 days for 1 police officer. Hence, additional money was needed for traffic control support. Final amount paid police officers is \$87,500.00. Additional billings for parking control officers (from Al Herce of DPT) is forthcoming; RE estimated this bill to be about \$60,000.00. COMPLETE, NO FURTHER ACTION; CMOD #18	CMOD #18 Approved
1250-0035	12/08/10	081-0035 Premium cost for requesting contractor to accelerate work on 4th Street between Howard and Folsom	2				-0-	Due to archaeological discoveries, many trenches remained open and the project would not have enough time to complete installation of underground utilities and restore the roadway before the Holiday season. Without accelerating the work, the project would have had to pay rentals for the barriers, street plates and shoring for the unfinished trenches that would have remained. By accelerating the work and DPT allowing the contractor to work through the beginning of the Holiday Moratorium, the project avoided these rental costs, which is estimated to be greater than the premium cost of accelerating the work. COR Not submitted by Contractor CLOSED COMPLETE, NO FURTHER ACTION	
1250-0036	12/08/10	081-0036 Rental/Maintenance costs for support of Archeological Trenches (Part 1 of 4) \$255,840; Support Work During Archeologist Mitigation Efforts (Part 2 of 4) \$199,741; Mobilization and Equipment Standby Costs (Part 3 of 4) \$67,728; Additional Overhead/Indirect Costs During Archeological Delay Period (Part 4 of 4) \$124,186	2	CMB-0041	Agree	07/13/11 02/15/12 07/25/12 09/12/12	-0-	Due to archaeological discoveries, contractor may potentially claim for compensation for his equipment that were idle for the duration of the waiting period. RE's estimate is based on Caltrans rate for equipment standby for 5 months (May to October). RE has not received any change order request related to this item. RE to verify if his equipment were indeed idle during this time period. 2/15: Rental/Maintenance Costs for Support (Part 2 of 4); 07/25: Revised mod - compensation for 1 of 3) Rental/Maintenance, 2 of 3) Addl Work result of Archeological support, 3 of 3) Addl OH/Indirect cost. RE to add Equipment Standby time to revised mod. 09/12: RE to Prepare Modification 10/29: CMod 20 is being issued as a unilaterally change, by the SFMTA that represents the SFMTA's estimate of a fair and reasonable final compensation amount for the additional work. COMPLETE, NO FURTHER ACTION	CMOD #20 Approved

- 1 - Owner Directed Change in Scope
- 2 - Unforeseen Conditions
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CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

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					Approval Action	Approval Date			
1250-0037	12/08/10	081-0037 Compensation for loss of production, inefficiency and disruption of work due to archaeological discovery	2				-0-	Due to archaeological discoveries, contractor may potentially claim for compensation for loss of production, inefficiency and disruption of work. RE has not received any change order request related to this item. Amount shown is a ROM cost by the RE. RE expects a COR from the contractor but change justification is very unlikely. Initial draft COR was \$898,453. RE has adjusted to \$661,559 removing the month of October and option work. This was then revised to 800,000. There has been no official submittal from Synergy. SFMTA has directed Synergy to submit anything related to the Architectural delays through the claims process. This will be carried in the Potential Claim Log. COMPLETE, NO FURTHER ACTION	
1250-0038	03/18/11	081-0038 Project Delay due to archaeological discovery and PG&E Issues.	2				-0-	Due to archaeological discoveries compounded with PG&E's ability to perform service switchover to Olivet University and de-energize a live duct bank in conflict with 48" sewer. The project will realize an estimated 6 weeks of non-compensable delay to the substantial completion date of 4/6/11. 47 days estimated by RE. Contractor submitted COR 51 in the amount of \$1,144,776.74 on September 1st, 2011. RE responded requesting additional backup on October 19th, 2011. Subsequently, no additional information has been provided by the contractor, therefore, SFMTA has directed Synergy to submit anything related to the Architectural delays through the claims process. This will be carried in the Potential Claim Log.	
1250-0039	05/18/11	081-0039 Remove BP-4 (Waterproofing) from Contract	4				-0-	Bid item was not used. Contractor requesting compensation to recover for General Conditions cost. Bid item amount total is \$40,000. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A
1250-0040	05/18/11	081-0040 Delete SW-8 (24" Sewer) from Contract	4				-0-	Bid item was not used. Contractor requesting compensation to recover for General Conditions cost. Bid item amount total is \$73,117. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A
1250-0041	05/18/11	081-0041 Delete UD-5 and UD-6 (Class I Off haul and Handling) from Contract	4				-0-	Bid items were not used. Contractor requesting compensation to recover for General Conditions cost. Bid items total amount is \$150,000. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A
1250-0042	05/25/11	081-0042 Delete GE-6 (Hazmat) from Contract	4				-0-	Bid item was not used. Contractor requesting compensation to recover for General Conditions cost. Bid item amount total is \$100,000. NO FURTHER ACTION; Superseded by COR #58. (See 1250-0043 below)	N/A
1250-9001	10/06/10	081-9001 Utility Companies refusal to contribute to utility support costs and work around. (Voided. Recorded individually in TR-0059-TR-0061.)	7						VOIDED
1250-0043	08/03/11	081-0043 Unit Rate Adjustment for Entire 1250 Bid Items	4				(333,904)	Pursuant to General Provision GP-11, COR is to adjust contract value to account for fix overhead costs for bid items not performed or where the bid item performed varied by 25%. COMPLETE, NO FURTHER ACTION; CMOD #20	CMOD #20 Approved
Contract 1250 Totals							+2,694,211	Total Changes to the Contract in the amount of \$2,694,211, represents a \$740,834 OVER RUN of the original allocated contingency of \$1,953,377. Changes that will be Utility Reimbursement credits through the Form B process in the amount of \$162,992 will offset some of this OVER RUN. Final Contract Closeout Total \$11,968,150 will be reduce by \$2,275,419 Utility Reimbursement credits for a Final Program cost of \$9,692,731 for CN 1250	
Contract 1251 - Utilities Relocation #2 (UMS)									

- 1 - Owner Directed Change in Scope
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CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number	
					Approval Action	Approval Date	Actual/Forecast			
Contract 1251 Totals							+3,962,032	<p>Total Changes to the contract in the amount of 3,962,032 represents an UNDERRUN of allocated contingency in the amount of \$1,405,265.32.</p> <p>Changes that will be Utility Reimbursement credits through the Form B process in the amount of \$1,224.828 will increase the UNDERRUN.</p> <p>Final Contract Closeout Total \$20,794,581 will be reduce by \$7,618,112 Utility Reimbursement credits for a Final Program cost of \$13,176,469 for CN 1251</p>		
Contract 1252	COR No.	PCC No.	1252 Change Description	Change Type	CMB Change No.	Configuration Management Board Agree/Disagree	Decision Date	Actual/Forecast	Comments	Contract Modification No.
1252-0001	04/23/12	1	AWSS Conflict w/ Low Pressure Water	6	CMB-0091	Agree to Merit Agree to Cost	10/10/12 1/16/13	+16,907	AWSS contract work was made more difficult by the proximity of a water line which was closer than indicated on UT-501. See COR 008 for TIA request. 10/10/12 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$16,900	
1252-0002	04/23/12	2	AWSS Add. Tie-Rods 4th-Harrison	6	CMB-0086	Agree to Merit Agree to Cost	10/10/12 12/19/12	+58,000	The AWSS line must be restrained a certain distance beyond the 90 degree elbow we are installing under contract 1252. The 1252 contract work includes excavating on both sides of this 12-foot portion of pipe. Additional work scope (per Michael Smith @ DPW): Station 162+80 to 162+90 - Restrain the existing 12-inch tee to the existing pipe north of the tee. Restrain any other joints that are not restrained on the existing pipe up to the new pipe to be installed. 10/10/12 - Merit info presented to CMB - Agreed 12/19/12 - CMB - NOT TO EXCEED Amount \$58,000	
1252-0003	04/23/12	3	AT&T Vault Conflict-4th & Harrison	6	CMB-0092	Agree to Merit Agree to Cost	10/10/12 1/16/13	+16,015	After excavation of the roadway surface and subgrade at Fourth and Harrison streets an AT&T vault was discovered to be in conflict with the current alignment of the 42" RCP sewer main. Verbal authorization was given by an AT&T representative to make modifications to the vault. COR 003 has been submitted by BIH in response to this issue. Work is to be charged via SFMTA Form B agreement to AT&T. 10/10/12 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$21,089 04/01/13 - CM team must obtain in writing from AT&T a utility agreement for cost reimbursement.	
1252-0004	05/18/12	6	PG&E live electrical delays	6	CMB-0088	Agree to Merit Agree to Cost	11/28/12 1/9/2013	+7,402	PG&E lines indicated on contract drawing UD-502 thru 504 were to be abandoned yet were not yet abandoned when BIH started work. They were abandoned on 5/21. 11/28/12 - Merit info presented to CMB - Agreed 01/09/13 - CMB - NOT TO EXCEED Amount \$7,600 04/01/13 - CM team must obtain in writing from PG&E a utility agreement or cost reimbursement. COMPLETE, NO FURTHER ACTION: CMOD #10	CMOD #10 Approved
1252-0005	06/06/12	7	Oil filled pipe @ Launch Box	2	CMB-0093	Agree to Merit Agree to Cost	1/16/13 1/16/13	+9,980	Harrison and Bryant. 01/16/132 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$10,000 COMPLETE, NO FURTHER ACTION; CMOD #05	CMOD #5 Approved
1252-0006	04/23/12	8	TIA - Associated w/ COR 001, COR 002, and COR 003	6		Agree to Merit	10/10/12	+269,904	TIA and Overhead Costs related to COR 001, 002 and 003. 10/10/12 - Merit info associated w/COR's 001, 002 & 003 presented to CMB - Agreed. 01/30/13 Elevation Ladder documentation presented for review of unresolved issue of payment of Indirect costs for TIA submittals- COR 008	

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1252-0007	06/12/12	9	MOS - Live Utilities: PGE, AT&T, and SFWD 8" Water Line extra kill hole location	2		Agree to Merit	11/14/12	+49,007	Live PG&E Electrical Lines Conflict: BIH was notified that PG&E had live electrical lines running through each headwall work zone @ Moscone station. 8 inch Low Pressure Water Line Conflict: Contract drawings show this utility to be abandoned and capped prior to work. Synergy struck and damaged the water line. SFWD directed Synergy to excavate a kill hole so they could properly abandon the line. 11/04/12 - COR Evaluation for Merit presented to CMB.	
1252-0008	06/19/12	10	MOS - Demo PGE duct bank / SF City 911 fiber optic line	2	CMB-0094	Agree to Merit Agree to Cost	10/10/12 1/16/13	+4,916	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered a PG&E duct bank that contained a live San Francisco 911 fiber optic line. 11/14/12 - Presented to CMB. The narrative will be rewritten CMB agrees with partial merit labor work involved in supporting the utility agencies. This item will be brought back to the CMB for approval. 01/09/13 - CMB - NOT TO EXCEED Amount 4,919.54 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement. COMPLETE, NO FURTHER ACTION: CMOD #03	CMOD #3 Approved
1252-0009	07/02/12	11	MOS - Traffic Signal line re-route south headwall	6	CMB-0095	Agree to Merit Agree to Cost	1/16/13	+37,500	After potholing Synergy discovered several traffic lines which were in the proposed location of the south MOS headwall. Traffic Lines re-routed. 01/16/13 - CMB - NOT TO EXCEED Amount \$37,500	
1252-0010	01/00/00	12	MOS - Archaeological Standby North Headwall	2	CMB-0096	Agree to Merit Agree to Cost	12/11/12 1/16/13	+16,892	uncovered a layer of "Midden" or Native American debris. 12/11/12 - Merit info presented to CMB - Agreed 01/16/13 - CMB - NOT TO EXCEED Amount \$7,600 COMPLETE, NO FURTHER ACTION: CMOD #06	CMOD #6 Approved
1252-0011	07/06/12	13	PCC No. 13 - MOS - SL conduit from PG&E vault @ north headwall	6		Agree to Merit	11/28/12	+10,903	Permanent power is required to supply an existing Street Light box north of the MOS N headwall. 11/28/12 - Merit info presented to CMB - Agreed 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement.	
1252-0012	06/26/12	15	LB - Pre-Excavation for Slurry Walls	2	CMB-0087	Agree to Merit Agree to Cost	11/28/12 12/19/12	+96,000	Pre-excavation of slurry wall panels due to CDF encased sewer line. The concrete encasement was found by the Contractor to extend to a depth of 9'-11' below the top of guide wall or street surface. The 8" VCP sewer main and concrete encasement was incorrectly shown in the contract drawings to be approximately 4'-5' below the street surface. 11/28/12 - Merit info presented to CMB - Agreed 12/19/12 - CMB - NOT TO EXCEED Amount \$96,000	
1252-0013	07/02/12	17	MOS - Standby Time @ south headwall due to live TS lines	6		Agree to Merit	11/21/12	+79,219	Standby delays related to the discovery of traffic lines within the proposed location of the south MOS headwall. 11/14/12 - COR presented to CMB. CMB requested additional revisions to the evaluation. CMB agrees with partial merit. The COR will be brought back to the CMB for approval. 11/21/12 - COR revisited at mtg for clarification the issue is related to CMB action from item 3 -7/25/12 (Mtg #88) specifically acted on 08/01/12 (CMB Mtg. 89) referred originally as Trend #15.	
1252-0014	Closed	19	UMS - Grant street 2 way conversion (e- & striping)	7					In order to implement a full street closure for Stockton Street at the UMS location the DPT recommended that Grant Street be converted from an existing one-way street to a two way street for vehicular traffic. Closed - Work is done. 07/18/12 - This potential change was brought before the CMB. Board's decision to have DPT perform the work. CLOSED; NO FUTURE ACTION	
1252-0015	06/22/12	20	PROJECT WIDE - Utility Demo limit reduction credit	5					BIH's subcontractor Synergy Project Management (SPM) would like to minimize the limits of utility demo at the Launch Box, Moscone station, UMS station and TBM Retrieval Shaft locations. Closed - SFMTA to BIH/SPM "Build per Plan".	
1252-0016	04/02/12	21	UMS - Reduced Duration	5	CMB-0073	Agree Cost (Conditionally)	8/01/12	-0-	No cost change for acceleration of utility relocation, ground improvements (jet grouting), and headwall construction at Union Square/Market Street Station. 08/01/12 - CMB approval condition upon incorporating correctness to backup documentation as required by & documented in CMB mtg. RE to prepare modification. COMPLETE, NO FURTHER ACTION: CMOD #08	CMOD #8 Approved

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1252-0017	07/10/12	22	MOS - Asbestos Pipe at north headwall	2	CMB-0090	Agree to Merit Agree to Cost	12/12/12 1/09/13	+5,705	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered friable asbestos-laden transite pipe. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 - CMB - NOT TO EXCEED Amount \$6,000 COMPLETE, NO FURTHER ACTION: CMOD #5	CMOD #5 Approved
1252-0018	07/10/12	23	MOS - Brick Wall #2 discovered @ north headwall	2		Agree to Merit	12/6/12	+16,025	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered a buried wall. 11/14/12 COR presented to CMB. Evaluation for merit will be rewritten and brought back to CMB for approval. 11/21/12 - Merit info presented to CMB - Agreed	
1252-0019	08/10/12	26	MOS - Asbestos Pipe at south headwall	2	CMB-0085	Agree to Merit Agree to Cost	12/12/12 1/09/13	+27,630	Transite pipe was discovered during MOS south headwall excavation. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 CMB - NOT TO EXCEED Amount \$30,000	CMOD #15 Approved
1252-0020	08/10/12	27	MOS - Oil filled pipe at south headwall	2	CMB-0089	Agree to Merit Agree to Cost	12/12/12 1/09/13	+8,226	A pipe containing oil was discovered during MOS south headwall excavation. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 CMB - NOT TO EXCEED Amount \$8,600 COMPLETE, NO FURTHER ACTION: CMOD #05	CMOD #5 Approved
1252-0021	06/19/12	29	MOS - Todco scaffolding reimbursement	2	CMB-0097	Agree to Merit Agree to Cost	12/12/12 1/16/13	+1,718	1252 contract work requires the removal of scaffolding erected by Fine Line Construction, the contractor performing renovations on the Woolf House. 12/12/12 - Merit info presented to CMB - Agreed 01/09/13 - CMB - NOT TO EXCEED Amount \$1,717 COMPLETE, NO FURTHER ACTION: CMOD #03	CMOD #3 Approved
1252-0022	Closed	closed	Disputed Work Items - NTP2 vs. NTP3	7				-0-	BIH interpretation of Special Provisions SP-3 NTP2 description includes activities that SFMTA interprets to be within NTP3. These activities include: Ellis Street and Green Street shafts and associated compensation grouting, MOS headwalls and jet grouting, jet grouting at cross passage 5, UMS head walls and jet grouting, OCS removal along Stockton Street from Geary to Ellis, and the TBM retrieval shaft. On April 13, SFMTA released the MOS headwalls and jet grouting, jet grouting at cross passage 5, UMS jet grouting, OCS removal along Stockton Street from Geary to Ellis, and preparatory and utility work necessary for the construction of the retrieval shaft.	
1252-0023	05/30/12	4	Manhole in east guidewall footprint	2				-0-	While performing excavation for the east side guidewalls at the TBM Launch Box, BIH's subcontractor CJA-NCC encountered a manhole near the bottom of the excavation which was unexpected. BIH has stated that removal of the manhole prior to the installation of the guidewalls was necessary to ensure the successful installation of the slurry walls.	
1252-0024	Closed	closed	2" gas line inside 16" casing	2				-0-	While performing excavation for the Sewer and AWSS trench at the intersection of Fourth and Harrison streets, BIHJV's subcontractor Synergy encountered what was identified to be a 16" depressurized gas main. This gas main contained a 2" gas line which is shown on contract drawing UD-502 to be abandoned/removed.	
1252-0025	04/23/12	5	CDF Encasement on 42" RCP	2				+140,596	While performing excavation for the east side guidewalls at the TBM Launch Box, BIH's subcontractor CJA/NCC encountered a CDF backfill at the existing 42" RCP sewer which reportedly had a significantly higher compressive strength than the 50-150 psi. which was anticipated. BIH claims that the CDF conflicted with the construction of the guidewalls and it could not be excavated by conventional means.	
1252-0026	Closed	closed	Damage to Live LPW main at 4th and Folsom	2				-0-	Synergy Demo Crew hit a blow-off valve on the 8" water line at the Southwest corner of the MOS headwalls. SFWD is to install a permanent cap per contract drawing WD-404.	
1252-0027	Closed	14	MOS - 76 Gas Station fencing	1					SFMTA requested BIH to install fencing around the perimeter of the 76 gas station at 4th and Folsom St. Issue closed, cost of fence paid by BIH in return for use of gas station lot. CMB - Temporary use of 800 Folsom Street site for construction staging. Use of this site would be a tradeoff between SFMTA and BIH. The Contractor would maintain the sites security and up-keep in exchange for not billing.	
1252-0028	Closed	16	LB - SPTC delays due to concrete encased 8" sewer	2					07/25/12 - Verbal information presented to CMB as a potential change. CLOSED NO FURTHER ACTION	

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1252-0029	08/06/12	18	MOS - South Headwall re-design	1				+145,000	Costs related to leave end stops in place and a "T-Section" at the Moscone headwalls return walls. 11/14/12 - Presented to CMB. RE is recommending a possible compensation value of \$135K. CMB agrees with partial merit for labor and material cost of this COR. RE will proceed with scoping the work. 04/17/13 - Elevation Ladder of unresolved issue of End Stops presented to CMB - COR 018	
1252-0030	08/02/12	24	Ellis - Utility demolition	3		Agree to Merit	12/6/12	+38,678	BIH says that no utilities were shown at Ellis; however, Reference Drawing UE-126 shows utilities. 12/06/12 - Merit info presented to CMB - Agreed	
1252-0031	Closed	25	Crack Gauges	4				-0-	BIH disagrees with SFMTA on the total number of crack gauges to be installed on the project. Per the contract drawings a total of 926 crack gauges are to be installed. BIH claims that a total of 50 are to be installed.	
1252-0032	08/07/12	28	Ellis asbestos abatement	2		Agree to Merit	12/6/12	+35,386	A steam line containing asbestos was discovered during potholing at the Ellis Street Shaft. 12/06/12 - Merit info presented to CMB - Agreed	
1252-0033	-	30	LB - Class 1 Hazardous Material Haul off	2				+198,276	BIH trucking costs for Class 1 haul off generated at staging yard. Also see COR 054 regarding Class 1 Haz material haul off for Phase 2.	
1252-0034	-	70	LB - Jet Grout Quantity Overrun	4	CMB-0115	Agree to Merit Agree to Cost	3/20/13 04/03/13	+768,600	The contract drawings call for the contractor to determine the extent of jet grouting at the launch box. Bid Item ES-3 has an estimated quantity of 2,831 CY of in-situ treated ground. The Contractor has currently installed 3,929 CY of Soilcrete (Jet Grout) for ground treatment. This translates to an additional quantity of 1,098 CY of ground treatment beyond the quantity listed for Bid Item ES-3. By subtracting 241 CY for the "scallop" portion of the columns the total is 857 CY. 03/20/13 - Merit info presented to CMB - Agreed 04/03/13 - CMB - NOT TO EXCEED Amount \$599,900	
1252-0035	01/00/00	unsubmitted	Utility Removal UD-304 and UD-503	6				TBD	RFI 00134 asks whether certain utilities indicated on drawings UD-304 (On Stockton inside limits of future UMS Station) and on UD-503 (On Fourth and Stillman Streets outside limits of Launch Box) may be left in place. Answer: "Confirmed, the utilities in question can be abandoned in place and are not required to be removed. The Engineer will seek an adjustment to Bid Item GB-3 for the elimination of this work."	
1252-0036	05/17/12	35	Additional Road Base on Fourth Street	2			12/6/12	+7,000	BIH's subcontractor Synergy Project Management (SPM) discovered what they believe to be an additional layer of road base under the existing asphalt and road base layer while performing roadway demo work along the west side of Fourth street between Harrison and Bryant St. The additional layer is estimated by BIH/SPM to be approximately 8" - 12" thick. 12/06/12 - Evaluation of merit presented to CMB - Agreed to No Merit for this change.	
1252-0037	01/00/00	unsubmitted	DPW permitting potential impacts	7				TBD	DPW Permitting issue to cause potential impacts. DPW is not issuing BIH permits for excavating the MOS headwalls, jet grouting at the LB, and excavating support at the LB, as they claim to have not been able to conduct a thorough review of the project's design documents and were not included in the design process. BIH may be required to re-sequence and stand many other potential impacts w/o said permits.	
1252-0038	05/30/12	38	Manhole in West Guidewall Footprint	3	CMB-0101	Agree to Merit Agree to Cost	12/05/12 1/23/13	+3,821	While performing excavation for the west side guidewalls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered a manhole foundation within the excavation at approximate station 165+70. It was necessary to chip away a portion of the existing manhole to gain the necessary clearance to construct the west slurry wall. 12/05/12 - CMB agreed with Evaluation of Merit 01/23/13 - CMB - NOT TO EXCEED Amount \$4,052.17 COMPLETE, NO FURTHER ACTION: CMOD #12	CMOD #12 Approved
1252-0039	01/00/00	unsubmitted	Panel W-33 Obstruction	2				TBD	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered buried (wood pile?) debris located approximately 12 feet below the guide wall within Launch Box Diaphragm Wall Panel W-33. This trend is being tracked separately from Trend 20 because we believe it may be a different structure. BIH has not provided adequate information substantiating the merging of the two trends.	
1252-0040	08/23/12		PCC 1 PCC No.1 - Revisions to Moscone North Headwall Elevation (Top)	1	CMB-0099	Agree to Cost	1/16/2013	+20,358	SFMTA initiated change to revise headwall elevations to facilitate a change in the roof elevation of MOS station. 01/16/13 CMB - NOT TO EXCEED Amount \$20,500	CMOD #7 Approved

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1252-0041	08/23/12		PCC 2 PCC No. 2 - Revisions to UMS Headwall Concrete and Reinforcement Limits	1				-0-	SFMTA initiated change to revise UMS headwall concrete and reinforcement limits to provide a cost savings. 08/29/12 - Revised PCC presented to CMB	
1252-0042	08/24/12	31	Retrieval Shaft - Unmarked 12" Steel Pipe	2	CMB-0108	Agree to Merit Agree to Cost	1/2/2013 2/27/13	+1,200	Management (SPM) discovered an abandoned 12" dia. steel pipe which appears to run continuously under Columbus Ave. 01/02/13 - Merit info presented to CMB - Agreed 2/27/13 - Cost presented to CMB - agreed to NTE \$1,250 04/01/13 - No reimbursement from SFWD. COMPLETE, NO FURTHER ACTION: CMOD #13	CMOD #13 Approved
1252-0043	08/31/12	32	LB - Panel W29 Wood Pile	2		Agree to Merit	11/28/12	+81,000	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered what appeared to be a wood pile within Launch Box Diaphragm Wall Panel W-29. 11/28/12 - Merit info presented to CMB - Agreed	
1252-0044	09/04/12	33	Ret Shaft - 20" Water Line Conflict	2		Agree to Merit	11/14/12	-0-	During excavation for the joint trench at the retrieval shaft SPM discovered that the MRY Duct Bank is directly above an active 20" low pressure waterline. As a result the work at the Retrieval Shaft must reportedly be altered. 11/14/12 - Presented to CMB, the CMB agrees with some merit of this COR, element of change not define clearly. RE will proceed with scoping the work.	
1252-0045	09/11/12	34	LB - Panel W28 Wood Pile	2				+81,000	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered what appeared to be a wood pile within Launch Box Diaphragm Wall Panel W-28.	
1252-0046	01/00/00	36	MOS - Catch Basin @ south headwall	3				-0-	A catch basin on the NW corner of 4th and Folsom interfered with the construction of the MOS Headwalls. Removal of the catch basin was needed in order for the headwalls to be built. BIH claims the catch basin was not shown in the contract drawings. Closed due to improper notification.	
1252-0047	01/00/00	37	UMS - 12" steel pipe removal	3				+3,500	A 12" steel pipe at the north UMS headwall location interfered with the demolition of other existing UMS utilities. BIH claims the steel pipe was not shown in the contract drawings. Closed due to improper notification.	
1252-0048	09/07/12	39	MOS - 16" Steel Pipe removal @ northeast headwall	3	CMB-0102	Agree to Cost	1/23/13	+2,952	SPM removed an unmarked 16" steel pipe from the excavation of the NE MOS Headwall. Construction of the MOS headwall could not commence without this utility being removed. BIH claims the 16" steel pipe was not shown in the contract drawings. 01/23/13 - CMB - NOT TO EXCEED Amount \$2,951.99 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement. COMPLETE, NO FURTHER ACTION; CMOD #14	CMOD #14 Approved
1252-0049	01/00/00	40	MOS - Extra Road Base @ northeast headwall	2				-0-	BIH's subcontractor Synergy Project Management (SPM) discovered what they believe to be an additional layer of road base under the existing asphalt at the NE MOS headwall location. The road base in this location was approx. 20" thick on a patch that was roughly 25' x 25'. Closed due to improper notification.	
1252-0050	05/18/12	41	LB - Impacts due to live PG&E electrical lines (Synergy)	6	CMB-0098	Agree to Merit Agree to Cost	1/16/13	+1,217	Based on direction from the SFMTA, Synergy provided a full time flagger for one night shift of work @ the intersection of I-80 off-ramp near 4th/Bryant streets in order to assist PGE while they performed the abandoning of the existing live PGE electrical at the Launch Box location which was shown to be dead in the contract drawings. 01/13/13 - CMB agreed with Evaluation of Merit 01/16/13 -CMB - NOT TO EXCEED Amount \$1,245 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement. COMPLETE, NO FURTHER ACTION: CMOD #10	CMOD #10 Approved
1252-0051	01/00/00	executed	Contract Amendment No. 2	1				(3,040,713)	COMPLETE, NO FURTHER ACTION: CMOD #2	CMOD #2 Approved
1252-0052	08/17/12	42	LB - Panel W25 Wood Pile	2		Agree to Merit	11/28/12	+116,785	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered an obstruction within Launch Box Diaphragm Wall Panel W-25. 11/28/12 - Evaluation of merit presented - CMB agreed	

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1252-0053	08/22/12	43	LB - Panel W30 Wood Pile	2		Agree to Merit	11/28/12	+47,185	While performing excavation for the slurry walls at the TBM Launch Box, BIH's subcontractor CJA-NCC unexpectedly encountered an obstruction within Launch Box Diaphragm Wall Panel W-30. 11/28/12 - CMB agreed with Evaluation of Merit	
1252-0054	09/19/12	44	MOS - 16" steel pipe removal @ southeast headwall	3	CMB-0109	Agree to Merit Agree to Cost	12/06/12 2/27/13	+1,600	SPM removed an unmarked 16" steel pipe from the excavation of the NE MOS Headwall. Construction of the MOS headwall could not commence without this utility being removed. BIH claims the 16" steel pipe was not shown in the contract drawings. 12/06/12 - CMB agreed with Evaluation of Merit 02/27/13 - Cost presented to CMB - agreed to NTE \$1,800 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement. COMPLETE, NO FURTHER ACTION: CMOD #14	CMOD #14 Approved
1252-0055	06/09/12	45	Ret Shaft - Credit for reduced AT&T conduits	6				+331	Credit to install 2 less conduits in the AT&T infrastructure at the Retrieval Shaft Joint Trench. The conduit notes on page JT-701 of the contract documents require 8 EA 4" conduits as laid out on the AT&T line. The reduced materials would result in 6 EA 4" conduits as a result. 04/01/13 - CM team must obtain in writing from AT&T a utility agreement for cost reimbursement.	
1252-0056	09/25/12	46	UMS - Unmarked steel pipes (6", 12", 14") / Duct Bank	6	CMB-0103	Agree to Merit Agree to Cost	12/06/12 1/23/13	+7,475	While performing excavation for the utility demolition at the south UMS headwall BIH/Synergy discovered a 6" dia. steel pipe, 16" dia. steel pipe, 18" dia. steel pipe, and a concrete duct bank. BIH claims the utilities were not shown in the contract drawings. 12/206/12 - CMB agreed with Evaluation of Merit 01/23/13 - CMB - NOT TO EXCEED Amount \$7,461	
1252-0057	09/25/12	47	Ret Shaft - unmarked 10" steel pipe/duct bank	6	CMB-0104	Agree to Merit Agree to Cost	12/06/12 1/23/13	+2,108	Synergy Project Management (SPM), discovered an abandoned duct bank and 10" steel pipe which traveled underneath Columbus Avenue between Powell and Union Streets. Removal of the duct bank was necessary to complete the construction of the 36" RCP sewer main relocation work in this area. The status of the removal of the steel pipe is uncertain and may have not been necessary for the sewer main relocation. 12/06/12 - CMB agreed with Evaluation of Merit 01/23/13 - CMB - Not to Exceed \$2,201 04/01/13 - No reimbursement from SFWD COMPLETE, NO FURTHER ACTION: CMOD #13	CMOD #13 Approved
1252-0058	09/28/12	48	UMS - 3'x5' brick sewer at south headwall	6	CMB-0114	Agree to Merit Agree to Cost	12/06/12 03/13/13	+11,675	Synergy Project Management (SPM), discovered a brick sewer within the utility demolition limits at the UMS South headwall. The sewer encountered was larger than the 12" pipe which was shown in the contract drawings. Removal and disposal of the sewer commenced on September 26th and was completed by September 28th. Removal of the sewer was necessary for headwall construction. 12/06/12 - CMB agreed with Evaluation of Merit 03/13/13 - CMB - NOT TO EXCEED Amount \$12,474.65	
1252-0059	01/00/00	49	Ret Shaft - Tree trimming debris haul off	7				-0-	Synergy Project Management (SPM), was requested by the SFMTA to remove and dispose of debris near the Northeast corner of Columbus Avenue and Union Street. The debris resulted from tree trimming activities performed by MUNI operations. CLOSED; NO FURTHER ACTION.	
1252-0060	10/10/12	50	Ret Shaft - 12" steel pipe removal at Union/Columbus	6	CMB-0110	Agree to Merit Agree to Cost	12/12/12 02/27/13	+2,200	Street and Columbus Avenue. Removal and disposal of the steel pipe was necessary in order to complete the proposed sewer re-location work near the Retrieval Shaft. Sewer work included the construction of a manhole which had been positioned in the field to avoid an existing MUNI duct bank. 12/12/12 - CMB agreed with Evaluation of Merit 02/27/13 - Cost presented to CMB - Agreed to NTE \$2,600 04/01/13 - No reimbursement from SFWD COMPLETE, NO FURTHER ACTION: CMOD #13	CMOD #13 Approved
1252-0061	10/11/12	51	Ret Shaft - Elevation design conflict (30" low psi water / sewer)	3		Agree to Merit	3/13/13	+24,075	03/13/13 - Merit info presented to CMB - Agreed	
1252-0062	09/07/12	53	Chinatown - Night drilling for instrumentation	7				-0-	Closed.	
1252-0063	-	54	LB Class 2 Hazardous Material Haul Off (Phase 2)	2				+110,967	BIH trucking costs for Class 1 haul off generated at staging yard. Also see COR 030 regarding Class 1 Haz material haul off for Phase 1.	

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1252-0064	10/10/12		PCC 4 PCC No. 4 - Ret shaft sewer pipe material change	1				-0-	Change approximately 65 ft. of pipe for sewer bypass around the TBM Retrieval Shaft from 3' X 5' oval glass fiber reinforced pipe to a 48-inch (OD) HDPE SD-17 pipe with casing insulator placed inside a 54-inch diameter, 1/2-inch thick steel casing pipe. In addition, delete permanent sheet pile wall that was to have been placed along the west side of the trench to facilitate future maintenance access to the sewer along the shaft.	
1252-0065	12/18/12	57	PCC 8 PCC No. 8 - UMS - Tree Removal	1				-0-	SFMTA is directing removal of a tree at the northeast corner of Stockton and O'Farrell St. CLOSED; NO FURTHER ACTION.	
1252-0066	10/10/12		PCC 5 PCC No. 5 - Ret Shaft Water Dist. Pipe Material Change	1				-0-	Change material type of approximately 188 linear feet of 20-inch water line and approximately 125 linear feet of 30-inch water line from Welded Steel Pipe (WSP) to Ductile Iron Pipe (DIP) with TR-Flex joints. Install 6-inch thick concrete cap over 20-inch water line where cover is less than 24 inches.	
1252-0067	10/26/12	58	Ret Shaft - Additional 10" steel pipe removal	6	CMB-0111	Agree to Merit Agree to Cost	12/12/12 02/27/13	+700	12/12/12 - CMB agreed with Evaluation of Merit 02/27/13 - Cost presented to CMB - Agreed to NTE \$860.85 COMPLETE, NO FURTHER ACTION: CMOD #13	CMOD #13 Approved
1252-0068	10/10/12		PCC 3 PCC No. 3 - General Detour Signage	1	CMB-0113	Agree to Cost	02/27/13	-0-	Full closure of Stockton Street at Union Square was not anticipated under the 1252 Contract. The implementation of detour signage associated with the full closure of Stockton Street was to occur under the 1300 Contract. After the award of the 1252 Contract it was decided that a full closure of Stockton could be implemented to help reduce the headwall construction durations. As a result of the full closure the City Traffic Engineer has requested that a portion of the 1300 detour signs be installed now under the 1252 Contract to help alleviate traffic congestion and provide better detour signage around Union Square. 10/03/12 - PCC presented to CMB. CMB directed the RE to get a price quote from DPT do the work as a price comparison. This item will be brought back to the CMB at a later date. 11/14/12 - PCC presented to CMB. The CMB did not agree that Central Subway needed to take the lead on implementing detour signage, but suggested that the RE study the traffic activity and at the end of November report findings. 02/27/13 - Cost presented to CMB - Agreed to NTE \$6,152.60	
1252-0069	11/08/12		PCC 6 PCC No. 6 - Supplemental instrumentation of BART tunnel lining.	1				+657,884	Implement additional instrumentation of BART tunnel lining: (A) Existing bolt preload force – Determine the actual load in 12 bolts. (B) Bolt force sensor – Install 12 bolt force sensors at bolts for a total of 24 bolts. (C) Rail movement under dynamic train loading – Install dynamic strain gauges (2 per rail, 8 per tunnel). 10/31/12 - PCC presented to CMB for merit. CMB directed RE to proceed with obtaining a price quote from Contractor to perform the work.	
1252-0070	01/00/00	unsubmitted	Full Closure of 4th Street	1				TBD	SFMTA allowed full closure of 4th Street in order to facilitate construction of Launch Box Slurry Wall Construction Week Ending 11/04/12 - 11/11/12.	
1252-0071	11/07/12	61	LB - Panel P-17 Buried Obstruction	2		Agree to Merit	1/2/13	+1,473	CJA-NCC discovered an unmarked buried water main at Panel P-17, approximately 6' below the guidewall at CTL Station 165+52, while performing slurry diaphragm wall excavation. 01/02/13 - CMB agreed with Evaluation of Merit.	
1252-0072	11/14/12	62	LB – Panel P-9 Buried Obstruction	2		Agree to Merit	1/23/13	+150,000	CJA-NCC discovered a buried obstruction while excavating slurry diaphragm wall panel P-9 at the Launch Box location. 01/02/13 - Presented to CMB for merit, CMB did not agree. CMB suggested inspector's daily tags as backup or reference the tag numbers in the write-up when force account work is involved. 01/23/13 - Revised write up presented CMB agreed with Evaluation of Merit.	
1252-0074	11/16/12	65	LB – Panel P-12 Buried Obstruction	2		Agree to Merit	1/23/13	+150,000	CJA-NCC discovered a buried obstruction (water main) while excavating slurry diaphragm wall panel P-12 at the Launch Box location. 01/02/13 - Presented to CMB for merit, CMB did not agree. CMB suggested inspector's daily tags as backup or reference the tag numbers in the write-up when force account work is involved. 01/23/13 - Revised write up presented; CMB agreed with Evaluation of Merit.	

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1252-0075	11/19/12	66	Retrieval Shaft - Unmarked 12" Steel Pipe	2	CMB-0112	Agree to Merit Agree to Cost	1/23/13 02/27/13	+3,700	While performing excavation for the joint trench at the retrieval shaft BIH's subcontractor Synergy Project Management (SPM) discovered an abandoned 12" dia. steel pipe which appears to be a Low Pressure Water Main. 01/23/13 - Merit info presented to CMB - Agreed 2/27/13 - Cost presented to CMB - Agreed to NTE \$3,800 04/01/13 - No reimbursement from SFWD COMPLETE; NO FURTHER ACTION: CMOD #13	CMOD #13 Approved
1252-0076	11/19/12	67	LB - Panel P-10 Buried Obstruction	2		Agree to Merit	1/23/13	+18,000	CJA-NCC discovered a buried obstruction or concrete encased clay sewer pipe, approximately 7' below the top of the guide wall while excavating slurry diaphragm wall panel P-10 at the Launch Box location. 01/02/13 - Presented to CMB for merit, CMB did not agree. CMB suggested inspector's daily tags as backup be attached or reference the tag numbers in the write-up when force account work is involved. 01/23/13 - Merit info presented to CMB - Agreed	
1252-0077	12/21/12		PCC No. 7 - BART Temporary Annex Wall	1	CMB-0106	Agree to Cost	1/30/13	+15,500	SFMTA is requesting Contractor construct temporary wall for Bart Annex for SFMTA use. 01/30/13 - NOT TO EXCEED Amount \$15,380 COMPLETE; NO FURTHER ACTION: CMOD #11	CMOD #11 Approved
1252-0078	12/28/12		PCC No. 9 - UMS Headwall - Unknown Buried Pipe	1	CMB-0100	Agree to Merit Agree to Cost	1/16/13 1/16/13	+53,563	Related to COR 063. SFMTA instructed BIH to perform investigation into the 48" diameter steel pipe as it is a Differing Site Condition. 01/30/13 01/16/13 - CMB - NOT TO EXCEED Amount \$75,000 04/01/13 - CM team must obtain in writing from AT&T a utility agreement for cost reimbursement.	CMOD #4 Approved
1252-0079	01/09/13		PCC No. 10 - Relocation of TBM Retrieval Shaft	1					Modify Bid Item ST-4 Construction of Base Bid Permanent Retrieval Shaft to relocate the TBM retrieval Shaft to 1731-1741 Powell Street - 01/09/13 - Draft PCC10 presented to CMB for Contractor Design Activity to be paid on Force Account. NTE value \$20K presented to CMB as a draft copy, final copy distributed to the Contractor increased to \$50K. 02/20/13 - COST IS NOT REFLECTED HERE - SCOPE IS FUNDED BY OTHER CPT 690 \$\$\$\$ 03/06/13 - Cost proposal received from BIH. SFMTA will develop a detail estimate of what is believed to be the scope of work. 03/13/13 - PCC 10 presented for CMB change approval of \$50K NTE amount to perform design activities. CMB requested CM team return with a more detailed estimate, Contractor's cost proposal of the bulleted items as listed on the PCC and backup documentation as evidence of work completed by the Contractor.	
1252-0080	12/19/12	0	Segment Measuring Frequency	7				(1,300,000)	RFI 203.1 - In light of gauging frequency, and the difficulties of erecting a ring with cast in gaskets, BIH JV alternately proposes to assemble a ring on the Master ring at an interval of every 500th ring cast. The assembled ring would be comprised of randomly selected segments, or segments chosen by the Engineer.	
1252-0081	09/09/12	0	F21 and Old Navy Instrumentation Proposal	7				-0.	Wang Technology is proposing instrumentation changes to the Liquid Level Sensors and Tilt Beams in the basements of Old Navy and Forever 21.	
1252-0082	01/14/13	68	UMS - AT&T Vault Walkway @ N Headwall	2		Agree to Merit	1/16/13	+2,000	SPM discovered an walkway at the UMS north headwall. This walkway is located at the UMS north headwall and connects the south AT&T vault, located within the utility demolition limits, to an north AT&T, located outside of the utility demolition limits. SPM proposes to construct 3'x5' wall to the extents necessary, inside this walkway. The wall will be constructed of plywood and necessary reinforcement in order to create a bulkhead that will isolate the walkway and north vault from the south vault. 01/16/13 - CMB recommendation Contractor/Sub-contractor proceed on Force Account with a "Not to Exceed Amount" \$2K. 04/01/13 - CM team must obtain in writing from AT&T a utility agreement for cost reimbursement.	

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1252-0083	11/08/12	69	UMS - Shoring Impacts due to 48" ATT Pipe at SW Headwall	2				+45,715	On or about 10-25-13, BIH/Synergy were installing sheet piles at the UMS SW head wall to demolish the existing basement wall in conflict with the head wall construction per contract requirements. During the driving of the sheet piles, Synergy struck a buried object which was later identified as a 48" Diameter steel pipe. See PCC 9 and 11. Synergy thought they were hitting a buried tie-back which was shown on the contract drawings. Synergy did not know at the time that they were hitting a buried 48" pipe. After hitting the buried object, Synergy installed additional sheet piles and enlarged the excavation area in order to clear the buried object and drive the sheet piles to the minimum embedment depth. Due to the larger excavation, Synergy is claiming impacts as a result of encountering this DSC including shoring revisions and for installing additional sheets.	
1252-0084	01/24/13		PCC No. 11 - UMS – Cap and Remove 48" Steel pipe	1	CMB-0105	Agree to Cost	1/23/13	+70,999	BIH/Synergy encountered a buried 48" Diameter steel pipe during work at the UMS S. Headwall. The pipe is located 6 feet from the south UMS headwall and 5 feet from the face of the curb. This PCC is to complete removal of pipe @ S. Headwall and Investigate and remove pipe if necessary @ the North headwall. 01/30/13 - CMB - NOT TO EXCEED Amount \$150,000 04/01/13 - CM team must obtain in writing from AT&T a utility agreement for cost reimbursement. COMPLETE NO FURTHER ACTION: CMOD #9	
1252-0085	01/24/13	71	LB – Ramp Excavation Obstructions	2		Agree to Merit	4/3/13	+10,000	BIHJV encountered numerous groups of wood piles while performing excavation of the Launch Box ramp. The wood piles are approximately 16"+ in diameter and are located along the north and south perimeter walls of the Launch Box ramp excavation area. 01/30/13 - CMB did not agree with merit of change suggestion the RE negotiate w/Contractor for another concession. 04/03/13 - COR merit evaluation presented to CMB again due to a greater number of obstruction encountered. CMB - Agreed to Partial Merit	
1252-0086	02/08/13	72	Ellis Shaft Jet Grout Obstruction	2				-0-	On February 6th, 2013, CJA/NCC was drilling column R3 of the Ellis Shaft and reported hitting an obstruction 52ft below existing grade. The obstruction reportedly caused the jet grout monitor to shear off. At this time it is not known what the obstruction is or if it caused the monitor to be sheared off.	
1252-0087	02/14/13	73	MOS - 16" Pipe removal @ NE Headwall	2	CMB-0118	Agree to Merit Agree to Cost	3/13/2013 05/08/13	+940	BIH-JV's subcontractor, Synergy, encountered an abandoned 16" pipe while installing the 12" waterline at the north headwall of Moscone. The pipe was at the same elevation as the new 12" waterline and therefore needed to be removed to facilitate the installation of the new 12" waterline. 03/13/13 - Merit info presented to CMB - Agreed 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement. 05/08/13 - CMB agreed to cost of reconciliation of change on FA - NTE \$989.00	
1252-0088	NA	74	Whole Foods - Unknown brick obstruction in Comp Grout Trench	0				-0-	BIH has decided not to submit a COR as production was not significantly impacted.	
1252-0089	03/11/13	75	Hazardous Waste Disposal Denial - Spoils Containment Cost Impacts	7				+326,971	BIH submitted change order request (COR) 030 seeking reimbursement for the demonstrated additional costs of excavating, handling and disposing of excavated material found to contain hazardous material to a permitted landfill over that which can be disposed of at an unregulated dump site. The SFMTA refused reimbursement for such costs under the hazardous waste bid item allowance. As a result of this determination, BIH is modifying its approach to the construction and handling operations of tunnel spoils generated during tunneling operations.	
1252-0090	03/08/13	76	MOS - 16" Pipe removal @ SE Headwall	2	CMB-0119	Agree to Merit Agree to Cost	3/20/2013 05/08/13	+1,116	BIH-JV's subcontractor, Synergy, encountered an abandoned 16" pipe while installing the 12" waterline at the south headwall of Moscone. The pipe was at the same elevation as the new 12" waterline and therefore needed to be removed to facilitate the installation of the new 12" waterline. 03/20/13 - Merit info presented to CMB - Agreed 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement. 05/08/13 - CMB agreed to cost of reconciliation of change on FA - NTE \$1,116.00	
1252-0091	03/06/13	77	Comp Grout - WFB-5 Drilling Obstruction	2		Agree to Merit	4/3/13	+10,000	On March 06,2013, BIHJV encountered a potential Differing Site Condition (DSC) while drilling the compensation grouting hole WFB-5 located at Whole Foods and more precisely at CTL Station 160+38. This potential DSC consists of an obstruction located at a depth of 9' below grade which prevented CJA-NCC from drilling any further. 04/03/13 - Merit info presented to CMB - Agreed	

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1252-0092	03/07/13	78	Comp Grout - WF & ATT	2			3/20/13	-0-	BIHJV encountered multiple potential Differing Site Conditions (DSC's) of varying dimensions while excavating the compensation grouting trench for the drill holes located at Whole Foods and AT&T. 03/20/13 - Merit info presented to CMB - Agreed to No Merit for this change. 05/24/13 - CM Team update - Contractor no longer pursuing due to failure to provide proper notification.	
1252-0093	03/07/13	79	Comp Grout - Old Navy	2	CMB-116	Agree to Merit Agree to Merit (add) Agree to Cost	3/20/2013 04/24/13 04/26/13	+269,720	BIHJV encountered a potential Differing Site Condition (DSC) while sawcutting the pavement for the compensation grouting holes located at Old Navy. The original design was to drill the compensation grout holes between two existing PG&E lines. It was discovered in the field that there is not enough clearance between the existing PG&E lines for the original design to be possible and multiple other potential DSCs were also encountered including, but not limited to, tile duct banks, concrete of unknown contents, and steel pipes. 03/20/13 - Merit info presented to CMB - Agreed 04/01/13 - CM team must obtain in writing from PG&E a utility agreement for cost reimbursement. 04/24/13 - Addl info presented for rationale for Contractor to demob and remob drill rig due to insufficient clearance between existing PG&E lines to drill the grout holes - Agreed 04/26/13 - COR presented at a special mtg to notify CMB of work needed to have Contractor perform work on FA4 for a NTE amt of \$70K.	
1252-0094	03/12/13	80	MOS – Asbestos Wrapped 20" water line @ Headwalls	2		Agree to Merit	4/3/13	+43,000	BIHJV's subcontractor, Synergy Project Management was performing the installation of low pressure water distribution piping at the Moscone north headwall and discovered an unknown material wrapping around the existing 20" waterline which appeared to contain asbestos material. 04/03/13 - Merit info presented to CMB - Agreed	
1252-0095	03/11/13	81	12" Waterline Tee Connection Location (MOS South)	2		Agree to Merit	4/3/13	+2,999	BIHJV's subcontractor, Synergy Project Management, encountered a potential Differing Site Condition (DSC) upon exposing the tie-in point for the 12" waterline at the south headwall of Moscone. The potential DSC consists of two 45 degree elbows in the existing 12" waterline at the point of the tee connection. SFWD has surveyed the field conditions and indicated that the tee connection will need to be moved to the west. 04/03/13 - Merit info presented to CMB - Agreed	
1252-0096	03/13/13	82	MOS 20" Conflict with 16" AWSS @ South Headwall	2				+50,000	Upon exposing the existing 20" waterline at the south headwall of MOS, in preparation for installing the new 20" waterline shown on WD-403 and amended by RFI 0155, BIHJV's subcontractor Synergy Project Management encountered a potential DSC. The potential DSC consisted of a crossing conflict between the new 16" AWSS, the new 20" waterline, and the existing 6" PE gas. These three utilities cross at multiple locations however the existing depths are roughly the same.	
1252-0097	03/19/13	83	Ellis Shaft Concrete Obstruction	2		Agree to Merit	4/17/13	+4,000	During excavation for the Ellis Street Shaft, BIHJV's subcontractor, CJA-NCC, encountered a concrete obstruction at approximately 10 feet below grade. CJA-NCC spent 4 hours removing the obstruction. 04/17/13 - Merit info presented to CMB - Agreed	
1252-0098	03/16/13	84	Crate & Barrel Water Intrusion	2				+50,000	Water was discovered seeping into the Crate & Barrel basement in concert with secant pile installation at Pile #SRV-A. At the time, pile excavation was approximately 90 feet deep. BIHJV's subcontractor, CJA-NCC, stopped pile installation and placed lean concrete within the pile excavation. This allowed them to continue secant pile construction on other piles until which time SFMTA could provide appropriate mitigation for the water leak.	
1252-0099	04/05/13		PCC No. 12 - Modifications to Tunnel Alignment at Market Street	1			4/3/13	+292,000	IFB Tunnel Profile conflicts with micro-piles installed under Contract 1251. Tunnel Profile needs to be revised (lowered) such that TBM and Tunnel structure is below previously installed micro-piles. Contractor shall revise compensation grouting design to conform to Contract requirements given the revised tunnel alignment. 04/03/13 - CMB agreed to Micropile profile change being forwarded to the Contractor. 04/10/13 - Updated alignment was presented superseding 04/03/10 version - (lowered 4.9%) 04/10/13 - Original Contractor submittal needs to be evaluated to verify the new alignment has been incorporated.	

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1252-0100	03/26/13	85	SFWD Impacts at MOS North	2				+345,600	BIHJV's subcontractor CJA-NCC is in the process of constructing the Moscone Station headwalls, the sequence of construction is such that it requires the 12" and 20" waterlines on the eastside of 4th street to be rerouted prior to completing the headwalls. In accordance with the Contract the San Francisco Water Department (SFWD) is responsible for completing the waterline reroutes (chlorination and tie-in) in a specified duration. BIHJV claims the SFWD failed to complete this work in the contractual durations. As a result, BIHJV claims the headwall construction operation has been incurring stand by costs. 04/10/13 - Viewed at CMB during review of Trend/Change Log COR's. CM team contends this is not a valid change and will reject the Contractor's claim of merit.	
1252-0101	01/28/13	87	Cross Passage 5 - Value Engineering Change Proposal	5				(2,674)	As indicated in Contract Drawing No. ES-144, ground treatment for the excavation of CP5 was anticipated to be performed using jet grouting methods. BIHJV proposes to perform ground freezing from within the tunnels as an alternative ground treatment methodology, thereby avoiding the need to disrupt and impact the public by occupying 4th Street for an extended period. 04/24/13 - Viewed at CMB during review of Trend/Change Log COR's. CMB suggested a credit from the Contractor should be received for Bid Item ES-5. In addition suggested a minimal review of the BIH's proposed ground freezing method be done by the PB.	
1252-0102	04/09/13	86	UMS - Secant Pile SRV-J Obstruction DSC	2				-0.	BIHJV's subcontractor, CJA-NCC, encountered a potential Differing Site Condition (DSC) while drilling for UMS Secant Pile #SRV-J. The DSC consists of what appears to be an abandoned utility pipe located approximately 10 feet deep. 04/24/13 - Information presented to CMB during review of Trend Log. CM Team states COR merit will be rejected due to notification of change not met in timely manner per the contract docs. 05/24/13 - CM Team update - Contractor no longer pursuing due to untimely notification of event.	
1252-0103	04/18/13	88	SFWD Impacts at MOS South	2				+383,800	BIHJV's subcontractor CJA-NCC is in the process of constructing the Moscone Station headwalls, the sequence of construction is such that it requires the 12" and 20" waterlines on the eastside of 4th street to be rerouted prior to completing the headwalls. In accordance with the Contract the San Francisco Water Department (SFWD) is responsible for completing the waterline reroutes (chlorination and tie-in) in a specified duration. BIHJV claims the SFWD failed to complete this work in the contractual durations. As a result, BIHJV claims the headwall construction operation has been incurring stand by costs. 05/08/13 - Information presented to CMB during review of Trend Log. CM Team states COR will be rejected due to no merit. This item is not on the critical path.	
Contract 1252 Totals								+1,201,225	Total Changes and Potential Change (trends) to the contract are currently \$1,201,225 Out of Scope Changes to the Contract for Relocation of TBM (Trend 79, PCC 10) to be paid out of CPT690, funded separately. Not include in total above and being tracked separately from original Program Costs of \$1.5783B	
CONSTRUCTION TRENDS (Based on #1252 Trending Log and CMod) - SUBTOTALS:								+1,201,225	The \$1,201,225 represents an UNDERRUN of allocated contingency. Current Balance = (33,658,463 - 1,201,225 = \$32,457,238) This does not include potential reimbursements from utilities	
DESIGN TRENDS										
FD-001	07/31/10	084-0001	Narrowing of Platform at UMS	1	CMB-0006	Agree	08/04/10	(800,000)	[In "Current Forecast" - Sep2010 Cost Report.]	

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					Approval Action	Approval Date	Actual/Forecast		
FD-002	07/12/10	084-0002	1	CMB-0009	Agree (Conditionally)	08/25/10	(2,000,000)	Further actions: Designer required to receive Fire/Life/Safety approval before proceeding with this change. Designer to allocate cost impacts by Station (Current figures are "place-holders.". [In "Current Forecast" - Sep2010 Cost Report.]	
FD-002	07/12/10	085-0001	1	CMB-0009	Agree (Conditionally)	08/25/10	(500,000)	Further actions: Designer required to receive Fire/Life/Safety approval before proceeding with this change. Designer to allocate cost impacts by Station (Current figures are "place-holders.". [In "Current Forecast" - Sep2010 Cost Report.]	
FD-002	07/12/10	086-0001	1	CMB-0009	Agree (Conditionally)	08/25/10	(500,000)	Further actions: Designer required to receive Fire/Life/Safety approval before proceeding with this change. Designer to allocate cost impacts by Station (Current figures are "place-holders.". [In "Current Forecast" - Sep2010 Cost Report.]	
FD-003	07/31/10	085-0002	1	To be verified	Info Only	08/25/10	+7,000,000	Presented to CMB for information/consideration.	
FD-004	07/29/10	084-0003	1	CMB-0007	Agree	08/18/10	(8,000,000)	[In "Current Forecast" - Sep2010 Cost Report.]	
FD-005	08/22/10	084-0004	1	CMB-0010	Agree	12/29/10	(22,500,000)	Documentation to be filed.	
FD-006	08/03/10	084-0005	1	CMB-0008	Agree	08/18/10	-0-		
FD-006	08/03/10	086-0002	1	CMB-0008	Agree	08/18/10	-0-		
FD-007	08/03/10		1	CMB-0018	Agree	09/15/10	-0-		
FD-008	07/30/10		1	CMB-0017	Agree	09/15/10	+2,000,000		
FD-009	10/06/10	082-0003	1	CMB-0019	Agree	12/15/10	+3,000,000		
FD-010	10/06/10	082-0004	1	CMB-0020	Agree	11/17/10	+2,000,000		
FD-011	10/06/10	082-0005	1	CMB-0021	Agree	11/17/10	+500,000		
FD-012	10/06/10	082-0006	1	CMB-0022	Disagree	11/17/10	-0-		
FD-013	10/06/10	082-0007	1	CMB-0023	Agree	11/17/10	+4,100,000		
FD-014	10/06/10	082-0008	1	CMB-0024	Agree	12/15/10	+3,100,000		
FD-015	10/06/10	082-0009	1	CMB-0025	Agree	11/17/10	+1,000,000		
FD-016	10/06/10	085-0003	1	CMB-0011	over taken by FD-021	01/19/11	+5,000,000	Additional Information Pending.	
FD-017	10/06/10	085-0004	1	CMB-0012	over taken by FD-021	01/19/11	+10,300,000	Additional Information Pending.	
FD-018	10/06/10	084-0006	1	CMB-0013	Disagree	11/10/10	-0-	Additional Information Pending.	
FD-019	10/06/10	086-0003	1	CMB-0014	Agree	11/10/10	TBD		
FD-020	10/06/10	084-0007	1	CMB-0015	Agree	11/10/10	TBD		
FD-021	01/14/11	085-0005	1	CMB-0027	Agree	01/19/11	(18,000,000.00)	Agreement with changes to project configuration only. Additional Information required related to cost and schedule impacts. No agreement on Design cost impact, Design costs directly related to this change to be tracked separately	
FD-022	02/16/11	084-0008	1	CMB-0029	Agree	02/23/11	(134,000)	This trend has both an EPC number as well as a Construction Trend Number. See also Construction Trend No. 1251-0003	
FD-023	11/17/10	087-0001	1	CMB-0032	Agree	07/27/11			

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CENTRAL SUBWAY PROJECT
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FD-024	11/17/10	087-0002	Diamond crossover on surface segment to a tandem (universal) crossover.	1	CMB-0033	Agree	08/24/11	(350,000)	
FD-025	04/13/11	083-0001	Bid Option for TBM Retrieval Shaft		CMB-0034	Agree	04/13/11	(10,000,000)	Will require changes to Bid Schedule to incorporate Traffic, Utilities and Pavement Demo/Restoration as incidental costs to the Bid Option. Estimated DP1 cost impact is approx. 80-100 hrs. of engineering time.
FD-026	05/31/11	084,085,086	Air Replenishment System for Stations	1	CMB-0040	Agree	07/13/11	+1,245,000	Install air replenishment system at MOS, CTS and UMS to address the requirements of the SFFD Bulletin 5.07. The air replenishment system will be used to fill firefighter's self-contained breathing apparatus during firefighting operations in the three subway stations.
FD-027	07/21/11	082-0010	1 Stockton street (Apple Store) Secondary Closure Wall		CMB-0043	Agree	08/03/11	+500,000	1) Add secondary closure wall to supplement recently completed primary closure wall built by owner to isolate the sub-sidewalk basement of 1 Stockton Street (Apple Store). 2) Modify position of joint trench (and all associated conduits, ducts etc.) for secondary closure wall to be constructed.
FD-028	08/03/11	086-0004	MOS Revisions to Emergency Ventilation Requirements		CMB-0052	Agree	09/07/11	+500,000	Changes will extend the date of the 90% (pre-final) submittal by 20 working days and the 100% (final) submittal by 40 working days. CMB did not approve a time extension for 90% or 100% submittal delivery. Project Controls estimated \$321,645.
FD-029	08/08/11	085-0006	CTS Revisions to Emergency Ventilation Requirements		CMB-0053	Agree	09/07/11	+1,000,000	Changes will extend the date of the 90% (pre-final) submittal by 20 working days and the 100% (final) submittal by 40 working days. CMB did not approve a time extension for 90% or 100% submittal delivery. Project Controls estimated \$411,895.
FD-030	08/08/11	084-0009	UMS Revisions to Emergency Ventilation Requirements		CMB-0054	Agree	09/07/11	+1,000,000	Changes will extend the date of the 90% (pre-final) submittal by 20 working days and the 100% (final) submittal by 40 working days. CMB did not approve a time extension for 90% or 100% submittal delivery. Project Controls estimated 733,420.
FD-031	10/31/11		Accessibility Improvements at the SE corner of Union Square (UMS)						
FD-032	10/31/11		Union Square Entrance Reconfiguration (UMS)						
FD-033	10/31/11		Additional Compensation Grouting due to Tunnel Settlement Alert and Trigger Levels (All Stations)					+21,040,000	ECP dated 11/17/11. ECP being routed for approval.
FD-034	12/09/11		Operational Performance and Safety Enhancement at 4th and King		CMB-0062	Agree	12/14/11	+450,000	SFMTA Operations requested that the design of the 4th & King tie-in work be expanded to include a number of improvements at the junction involving the turn-back area extending to the scissors crossover at 6th & King. SFMTA Ops confirmed that the requested changes result in an arrangement that is consistent with standard operation practices and therefore does not involve new or unacceptable risks. CS 1553 Memorandum No. 0081. Conditionally agreed upon verification/resolution of Buy America issue for the switches. 3/14/12: "Buy America" issue no longer applicable. Revised ECP element - remove H&K switch machines and replace with hydraulic/120V switch machines such as Nortrak or equal.
FD-035	06/26/12		Tunnel Air Replenishment System		CMB-0071	Agree	07/11/12	+1,215,000	Design and construct a fire fighter air replenishment system for Central Subway tunnel as described in SF Fire Code 511.2, Bulletin 5.07 except as noted in the Central Subway Request for Approval of Variance for the ARS to SFFD on March 5, 2012, and subsequently approved by SFFD. Design Impact: ROM - \$215K Construction Impact: ROM - \$1M
FD-036	06/26/12		Surface Segment Sewers - 4th St.		CMB-0072	Agree	07/18/12	+2,200,000	Replace current unreinforced brick crown from 1906 as it may not be able to withstand loading for construction of the CS trackway section. Reconstruct manholes between Brannan and King Streets as existing are in conflict with proposed rail. Replace service laterals and provide sleeves for future replacement. Additional potential scope option of \$1.5M-Sewer and \$2.3M-Force Main may be requested. If so, it will be Cost to SFPUC

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FD-037	08/27/12		Platform Display System Signs		CMB-0077	Agree (Conditionally)	08/29/12	+500,000	Modify Stations (Contracts 1253, 1254 and 1255) and Surface, Track and Systems (Contract 1256) technical specifications and drawings for the Platform Display System (PDS) to match the changes made to the PDS units being supplied under the Integrated Systems Replacement (ISR) Project, Contract No.1260. 08/29/12: CMB agreement condition upon follow up action to evaluate procurement by CN1260	
FD-038	11/07/12		Elongated Sidewalk Bulb-out at Chinatown Station					TBD	CTS Sidewalk Bulb out (Southwest corner Stockton/Washington To bring the Central Subway Project - Chinatown Station in closer conformance wit the City's General Plan, SF Planning Department in its May, 2012 GPR Letter (recommends) making design changes specifically the extension of the sidewalk bulb-out at Stockton Street to help create a "station plaza". This elongated bulbout on the southwest corner (SWC) of Stockton and Washington Streets in front of the station headhouse would also include bike racks, benches, trees and other landscape features. Design Impact: ROM - \$TBD Construction Impact: ROM - \$TBD	
FINAL DESIGN TRENDS (Based on All ECPs) - SUBTOTALS									Incorporated budget increases have been absorbed by allocated and unallocated funds and the program budget to date remains \$1,578,300,000.	
OTHER TRENDS										
X51-001	07/31/10	082-0001	1251 Revised estimate, escalation impact and contingency.	7				+9,532,314	Cost Transfer #0033 (Base \$\$), 0033a (Allocated Contingency), 0036 (Base \$\$ Escalation , 0036a (Allocated Contingency Escalation). [Sep2010 Cost Report]	BT-0033, BT-0033-A, BT0036, BT-0036-A
X51-002	07/31/10	082-0002	Form B Credit for 1251 Utilities	7				(7,697,949)	Reserve and Contingencies removed as per communications with PG&E. This is consistent with the 1250 utility agreement. [Cost Transfer #0034 - Aug2010 Cost Report].	BT-0034
X52-001	07/31/10	083-0001	1252-(TUN) Revised estimate, escalation impact and contingency	7				(2,165,462)	Cost Transfer #0035 (Base \$\$), 0035a (Allocated Contingency), 0037 (Base \$\$ Escalation , 0037a (Allocated Contingency Escalation). [Sep2010 Cost Report]	BT-0037, BT-0037-A
X03-001	08/31/10	003-0001	OEWD's Pilot Training Program	7				+75,000	Workforce training pilot program in conjunction with the City/County's Office of Economic and Workforce Development (OEWD). Provides specialized training to SF residents to perform tunneling work. Central Subway financial responsibility being investigated. Requires further clarification	
X53-001	07/18/11	084-0001	CS 155-2 (DP2) CBP4 - Construction Budget Adjustment YOE	7	CMB-0044	Agree	07/27/11		Adjust construction budget in Section 6 of Contract No. CS 155-2 to Year of Expenditure	
X53-002	10/25/11		Change UMS Advertise Date to April 4th, 2012						DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out Advertise Dates.	
X53-003	04/11/12	084-0002	CN1253 (UMS) Construction Budget Adjustment 90%					+55,720,600	CMB is currently vetting the 90% estimate of \$221,534,723 which represents a \$XX increase from the 65% base amount in 2010\$. Increase would deplete current YOE dollars and require use of unallocated contingency.	
X53-004	06/26/12	084-0002	Approve/Execute/Certify durations change for UMS Contract						Shortened the duration for Approve/Execute/Certify - UMS Contract from 40 to 24days to reflect an optimistic but doable duration for contractor submittals.	
X54-001	07/13/11	085-0001	CS 155-2 (DP2) CBP5 - Construction Budget Adjustment YOE	7	CMB-0045	Agree	07/27/11		Adjust construction budget in Section 6 of Contract No. CS 155-2 to Year of Expenditure	
X54-002	10/25/11		Change CTS Advertise Date to May 23rd, 2012		CMB-0061	Agree	12/28/11		DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out Advertise Dates.	
X54-003	11/02/11		Change CTS Advertise Date to February 8th, 2012						Change CTS Advertise Date from May 23, 2012 to February 8, 2012 (-74 working days)	

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X54-005	12/06/11		Revisions to CTS Construction Schedule		CMB-0060	Agree	12/28/11			
X54-006	12/07/11	085-0002	CS 155-2 (DP2) CBP4 - Construction Budget Adjustment - allowed	7						
X55-001	07/18/11	086-0001	CS 155-2 (DP2) CBP6 - Construction Budget Adjustment YOY	7	CMB-0046	Agree	07/27/11		Adjust construction budget in Section 6 of Contract No. CS 155-2 to Year of Expenditure	
X55-002	10/25/11		Change MOS Advertise Date to June 25th, 2012						DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out Advertise Dates.	
X55-003	11/02/11		Change MOS Advertise Date to May 23rd, 2012						Change MOS Advertise Date from June 25, 2012 to May 23, 2012 (-22 working days)	
X55-004	06/26/12		Change MOS Advertise Date to Aug 20, 2012						Change MOS to August 20, 2012	
X56-001	10/25/11		Change STS Advertise Date to July 27th, 2012						DP2 Designer's new proposed dates for Pre-Final and Final Design have pushed out the Station's Advertise Dates. STS Advertise Date is staggered from Station's Advertise Dates.	
X56-002	12/14/11		STS Construction Schedule Revision for Equipment Procurement							
X56-003	06/26/12		Change STS Advertise Date to October 1, 2012						Change STS Advertise Date to October 1, 2012	
X40-001	10/19/11	028-0001	SFPUC CDD Updated Budgets	7		Authorized		+505,127	1250 SFPUC CDD Monthly Service Report Final & 1251 SFPUC CDD Estimate	BT-0172, BT-0177
X80-001	10/19/11	071-0001	DP1: CS 155-1 Modifications No. 2 & 3	see Prof. Serv		Authorized		+560,585	Modification No. 2: \$395,584.59, Modification No. 3: \$165,000. Individual details listed in Professional Services. See trend 1551-0002,1551-0005 - 1551-0009	BT-0170, BT-0171, BT-0173
X80-002		071-0002	DP1: CS 155-1 Modification No. 4	7		Authorized		+135,898	Modification No. 4: \$135,898 Individual details listed in Professional Services. See trends 1551-0010 - 1551-0014.	BT-0187
X80-003	10/27/11	029-0001	Increase City Auditor Budget	7		Authorized		+50,220	Reduce unallocated Contingency to increase City Auditor budget as authorized in Budget Authorization #51.	BR#51, BT-0181
X80-004	10/27/11	232-0001	Increase SFCTA Budget	7		Authorized		+20,000	Increase SFCTA budget per per Budget Authorization #51 to conduct travel forecast (TEP CEQA Modeling) to satisfy PMO review and SFMTA Fleet Plan light rail vehicle.	BR #51, BT-0182
X80-005	7/1/10, 11/2/10, 3/24/11	072-0001	DP2: CS 155-2 Modification No. 1	7		Authorized		+1,010,000	Modification No. 1: \$1,010,600 Individual details listed in Professional Services. See trends 1552-0002, 1552-0003 and 1552-0005.	BT-0194, BR#53
X80-006	5/6/10, 7/25/11, 9/22/11	072-0002	DP2: CS 155-2 Exercised Options	see Prof. Serv		Authorized		+366,771	Individual details listed in Professional Services. See trends 1552-0001, 1552-0007 and 1552-0014.	BT-0023, BT-0194
X80-007	11/08/11	151-0001	Operations SFMTA Transit Services			Authorized		+50,000	CSP request services to support and test OCS for 30/45 trolley reroute. Authorized per Budget Revision #53	BR #53, BT-0189
X80-008	09/01/11	081-0001	SFMTA Safety, Training, Security & Enforcement Div PCOs	7		Authorized		+60,000	CSP request PCOs to support 1251 and 1252 construction for one year. Authorized \$60,000 per Budget Revision #45.	BR #45, BT-0190
X80-009	11/30/11	016-0001	SFMTA Sustainable Streets 30 and 45 re-route	7		Authorized		-0-	CSP request services to support 30/45 trolley reroute. \$162,600 was reduced from DPT staffing plan budget.	BT-0188
X80-010	11/09/11	073-0001	DP3: CS 155-3 Modification No. 1	7		Authorized		+152,882	Modification No. 1: \$152,882 Individual details listed in Professional Services. See trends 1553-0012 and 1553-0013.	BT-0203
X80-011	8/9/11, 9/22/11, 10/11/11, 11/9/11	073-0002	DP3: CS 155-3 Exercised Options	see Prof. Serv		Authorized		+1,026,398	Individual details listed in Professional Services. See trends 1553-0001 - 1553-0004, 1553-0006, 1553-0009 - 1553-0011, 1553-0014. Updated from \$971,686 to include Trend 1553-0014.	BT-0203

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X80-012		151-0002	OCS materials procured directly for work in reference to CN1251 CMOD#12.		CMB-0065	Agree	1/25/2012, 2/29/12	+126,149	See also Trend 1251-0023	
X80-013	05/30/12	073-0003	DP3: Provide Vibration Impact Analysis and Extend PC Support Technical and CSP Quality Manager	1				+133,906	Amend #2: Vibration Impact Analysis \$38,380 Amend #3: PC Support Tech \$34,483; Quality Manager - \$61,043	TBD
X80-014	12/17/12		For combining the stations and track and systems into Contract 1300 (SSTS)	7					Combined all the Station ad Track and Systems into one Contract. Removed the buffer float activities from the satin to track and systems and overlapped work that can now be done concurrent.	
X80-015	12/17/12		Changing the Bid Opening date and condensing the Contract Duration for Contract 1300	7		Agree	11/14/12		Change bid opening to March 19, 2013 and reevaluated procurement durations, revised calendars for UMS Gargage, revised productin rates for steel. 11/14/13 CMB Agreed verbally to change @ Mtg #101	
X80-016	02/19/13		Change to Tunnel and CTS interface and buffer float Contract 1300 (SSTS)	7		Agree	01/23/13		Change (MPS) reducing the number of days currently in (from 550 calendar days from NTP to 450 calendar days) for the key interface between CTS and the tunnel completion. Reduced number of days will be issued as part of Add #3 of the 1300 contract. 1/23/13 CMB Agreed verbally to change @ Mtg #111.	
OTHER TRENDS (Based on Various Trends)									Current Forecast reflects a net +3,537,933 unfavorable impact for all Other Trends.	
GRAND TOTALS									Current Forecast reflects an estimated net +66,751,620 unfavorable exposure to the project to date. Incorporated budget increases have been absorbed by allocated and unallocated funds and the program budget to date remains \$1,578,300,000.	
PROFESSIONAL SERVICES TRENDS: The following trends are listed for administrative purposes. The dollar amounts are reflected in the "Other Trends" section of this log in the form of cost (budget) transfers - ie CCOP's. The total values indicated for each professional contract are for tracking all potential cost exposures and may or may not be approved.										
Contract CS-155-1										
1551-0001	07/30/10		071-0001	Conform Contract Terms per Negotiations from 10/2/09 to 11/6/09	7			-0-	To be addressed in Amendment 1.	Amendment 1 Pending
1551-0002	02/18/11		071-0002	Project Office Delay (Adjustments for OH Rate and Team Productivity impact)	7	Authorized	07/29/11	+101,411	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved
1551-0003	02/18/11		071-0003	Additional Construction Support for CP-1	7					
1551-0004	02/18/11		071-0004	Redesign Required by Barney's and PUC for CP-2	7					
1551-0005	02/18/11		071-0005	Archeological Monitoring 16.20.C1 (total)	7	Authorized	07/29/11	+197,173	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved
1551-0006	02/18/11		071-0006	Eyebolts	7	Authorized	07/29/11	+50,000	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved
1551-0007			071-0007	Secondary Closure Walls 800/838 Market	1	Authorized	07/29/11	+47,400	Amendment Signed by ED/CEO 7/29/11 COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved
1551-0008			071-0008	Delete Optional Tasks - Tasks 1-14	1			-0-	Deleted Options in the amount of (\$529,952) in Amendment has been reversed through Budget Authorization #50. COMPLETE, NO FURTHER ACTION; Amendment #2	Amendment 2 Approved
1551-0009			071-0009	CTS Lowering	1	Authorized	12/08/11	+165,000	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #3	Amendment 3 Approved
1551-0010			071-0010	Modify Sidewalk Vault Demo ECP-FD009	7	Authorized	12/08/11	+39,311	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved
1551-0011			071-0011	Modify Stockton St. Sewer ECP-FD010	7	Authorized	12/08/11	+4,112	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved

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1551-0012			071-0012 Reconfigure Utilities N. Side Ellis ECP-FD011	7		Authorized	12/08/11	+2,448	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved
1551-0013			071-0013 Extend SubSidewalk Closure Wall ECP-FD013	7		Authorized	12/08/11	+85,233	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved
1551-0014			071-0014 Reroute OCS to Fifth St. ECP-FD014	7		Authorized	12/08/11	+4,794	Amendment Signed by ED/CEO 12/8/11 COMPLETE, NO FURTHER ACTION; Amendment #4	Amendment 4 Approved
1551-0015			071-0015 Retrieval Shaft Redesign - Sewer By Pass	7				+56,000	Awaiting documentation from Designer	
1551-0016			071-0016 Design Measures for Settlement Protection	7				+99,000	Awaiting documentation from Designer	
1551-0017			071-0017 Incorporate Headwalls MOS/UMS	1		Disagree at this time	11/01/11	+42,000	In letter dated November 1, 2011 DPM responded that until concurrence with DP2 on cost transfer or additional documentation, the requested change is denied.	
1551-0018			071-0018 Prepare Utility Composite	-		Disagree	11/01/11	+50,000	DPM responded that Program does not agree in letter dated November 1, 2011.	
1551-0019			071-0019 Incorporate Cross Passages	1		Disagree at this time	11/01/11	+43,000	In letter dated November 1, 2011 DPM responded that until concurrence with DP2 on cost transfer or additional documentation, the requested change is denied.	
Contract CS-155-1 Total								+986,882	Of the total cost exposure shown, Contract Modifications and Authorized Option dollars have been absorbed by DP1 allocated contingency in the amount of \$696,483 of a total budget of \$705,000. Additional potential exposure is +\$391,411. Currently, overall contract value remains unchanged in the amount of \$6,500,000.	
Contract CS-155-2										
1552-0001	05/06/10		072-0001 Optional Task 2.50 and Task 12.07	1		Authorized	05/06/10	+274,775	CS Letter 0473 from ED/CEO Optional Task 2.50 to support art enhancement activities NTE \$164,383 and Optional Task 12.07 to support design structures for Public Art NTE \$110,392.	
1552-0002	07/01/10		072-0002 Expanded Hydraulic Testing at CTS	7		Authorized	07/01/10	+26,100	Estimated cost breakdown is included in the 7/1/10 letter from CSDG and includes signed approval by SFMTA. Amendment No. 1 authorized by ED/CEO on 12/21/11. COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved
1552-0003	10/11/10		072-0003 Additional Soil Borings at UMS Station - Task No. 3.10 Supplemental Investigations	7		Authorized	11/02/10	+34,500	Estimated cost breakdown is included in the 10/11/10 letter from CSDG and includes signed approval by SFMTA. Amendment No. 1 authorized by ED/CEO on 12/21/11. COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved
1552-0004	02/11/11		072-0004 MOS TOD White Paper Proposal	1				+33,847	Conceptual study will assess a potential high rise building at the Moscone station headhouse. Estimated cost breakdown is included in the 2/11/2011 letter from CSDG - On Hold.	
1552-0005	03/24/11		072-0005 CTS - Alternate 5	7		Authorized	03/24/11	+950,000	CS Letter from DED dated 3/24/11 has agreed to a modification of \$950,000 for performing additional work. Amendment No. 1 authorized by ED/CEO on 12/21/11. COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved
1552-0006	06/28/11		072-0006 Audited Overhead Rate Adjustment for Year 2010 - Request for Amendment	7				-0-	Estimated cost of \$406,320 is included in the 6/28/11 letter from CSDG. See 1552-0006 Rev. 1 for most current estimate	
1552-0007	07/25/11		072-0007 REVIT and CAD Support (to City Staff) Option to DP2 Contract (Optional Services Task 12.12)	1		Authorized	07/25/11	+79,200	CS Letter No. 0768 from ED/CEO dated 7/25/11 has authorized Optional Task 12.12 NTE \$79,200.	
1552-0008	08/03/11		072-0008 MOS Revisions to Emergency Ventilation Requirements	-		Provide further Justification	09/07/11	-0-	CMB did not approve a \$60,000 proposed increase. Document References ECP FD028, CSDG letter dated 8/8/11. DPM responded that program does not agree in letter dated 10/17/11.	
1552-0009	08/03/11		072-0009 CTS Revisions to Emergency Ventilation Requirements	-		Provide further Justification	09/07/11	-0-	CMB did not approve an \$80,000 proposed increase. Document References ECP FD029, CSDG letter dated 8/8/11. DPM responded that program does not agree in letter dated 10/17/11.	
1552-0010	08/03/11		072-0010 UMS Revisions to Emergency Ventilation Requirements	-		Provide further Justification	09/07/11	-0-	CMB did not approve a \$100,000 proposed increase. Document References ECP FD030, CSDG letter dated 8/8/11. DPM responded that program does not agree in letter dated 10/17/11.	

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- 7 - Other

CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	Change Description	Change Type	CMB No.	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number	
					Approval Action	Approval Date	Actual/Forecast			
1552-0011	08/17/11	072-0011	Audited Overhead Rate Adjustment for Year 2010 - Request for Amendment - Rev. 1	7			+426,322	Estimated cost breakdown is included in the 8/17/11 letter from CSDG. This is a revision to the 6/28/11 letter and cost breakdown.		
1552-0012	08/23/11	072-0012	Station Air Replenishment System	-		Disagree	10/17/11	+36,240	Estimated cost breakdown is included in the 8/23/11 letter from CSDG. DPM responded that program does not agree in letter dated 10/17/11.	
1552-0013	09/01/11	072-0013	COR for Additional Services Related to MOS Constructability Review and Assessment of Alternatives	-				-0-	Cost charged to Task 2.70- part of base work	
1552-0014	09/22/11	072-0014	Proposal for Additional Work to provide Structural Engineering Support (Optional Services)	1		Authorized Optional Task 12.01.C5 only	11/04/11	+35,724	Estimated cost breakdown is included in the 9/22/11 letter from CSDG. Referenced Optional Work Tasks 12.01.C5 and 12.07.C5 - Effort re-evaluated - proposed cost to be resubmitted. CS Letter No. 1232 dated 11/4/11 from Director of Transportation has authorized Optional Task 12.01.C5 for the amount of \$12,796.	Option
Contract CS-155-2 Total								+1,896,708	Of the total cost exposure shown, Contract Modifications and Authorized Option dollars have been absorbed by DP2 allocated contingency in the amount of \$1,046,324 of a total budget of \$4,890,707. Overall contract value remains unchanged in the amount of \$39,949,959.	
Contract CS-155-3										
1553-0001	08/09/11	073-0001	Authorization to commence optional tasks 9.20J Technical Specifications Item J Facility SCADA	1		Authorized	08/01/11	+259,305	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0002	08/09/11	073-0002	Authorization to commence optional tasks 12.05 Architectural Plans	1		Authorized	08/01/11	+257,129	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0003	08/09/11	073-0003	Authorization to commence optional tasks 12.13J Facility SCADA Design	1		Authorized	08/01/11	+169,553	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0004	08/09/11	073-0004	Authorization to commence optional tasks 12.12E traction power cables for CAD production	1		Authorized	08/01/11	+52,800	SFMTA letter 0933 from ED/CEO dated 8/9/11 authorizing \$738,787 in optional tasks. COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0005	09/19/11	073-0005	Proposal to hire Wilson Ihrig to support Acoustics, Noise and Vibration tasks.	7		Authorized	03/08/12	+38,380	Signed by Director of Transportation 3/8/2012. COMPLETE, NO FURTHER ACTION ; Amendment 2	Amendment 2 Approved
1553-0006	09/22/11	073-0006	Proposal to exercise optional task 12.07 Public Art.	1		Authorized	11/04/11	+10,285	Letter dated 9/22/11 to DOM. PMCM response pending. Priced level of Effort assumed for this task. SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task.	
1553-0007	09/27/11	073-0007	Proposal to exercise optional sub-task 12.12 structural design of the OCS attachments.	7				+59,460	Letter dated 9/27/11 to DOM. NOT FOLLOWING CONTRACT REQUIREMENTS FOR PROPER NOTIFICATION OF CHANGE. PMCM has responded to clarify scope in stations and Tunnel Design. Awaiting resubmittal of request by DP3	
1553-0008	10/05/11	073-0008	Scope Clarification - Add Emergency and Location Signage.	7		Disagree A.12.08-Signage	11/09/11		Letter dated 10/5/11 to DOM. NOT FOLLOWING CONTRACT REQUIREMENTS FOR PROPER NOTIFICATION OF CHANGE. CS Memo No. 0882 from DOM to DP3 PM considers A.12.08 Signage as part of the work necessary to complete the trackway elements of the scope. The work in question is considered part of the base scope of services.	
1553-0009	10/11/11	073-0009	Proposal to exercise mechanical optional task A 12.11 to design a water line on the FBS station platform.	1		Authorized	11/04/11	+33,000	SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task. COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0010		073-0010	Proposal to exercise Task 12.01 Surface Segment site Drainage	1		Authorized	11/04/11	+108,240	SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task. COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0011		073-0011	Proposal to exercise Task 12.02 Sewer Relocation and Analysis Report.	1		Authorized	11/04/11	+81,374	SFMTA Letter 1213 from Director of Transportation dated 11/4/11 authorizing optional task. COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0012	11/09/11	073-0012	CTS - Alternate 5	7		Authorized	01/18/12	+88,855	Contract Modification No. 1 authorized by ED/CEO on 1/18/12 COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved
1553-0013	11/09/11	073-0013	Proposal for Geotechnical Services	7		Authorized	01/18/12	+64,027	Letter dated October 7, 2011 to DOM. PM/CM response pending. Contract Modification No. 1 authorized by ED/CEO on 1/18/12 COMPLETE, NO FURTHER ACTION; Amendment #1	Amendment 1 Approved

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CENTRAL SUBWAY PROJECT
Project Trend/Change Control Log

Item #	Date Initiated	CMB No.	Change Description	Change Type	Change Status		Projected Cost Impact +Exposure/(Benefit)	Comments	Contract Modification Number
					Approval Action	Approval Date	Actual/Forecast		
1553-0014	02/06/12	073-0014	Authorization to commence optional tasks 12.12E traction power cables for CAD production, Optional task 2.50 Coordination with Art		Authorized	02/06/12	+54,712	SFMTA Letter 1381 from Director of Transportation dated 2/06/12 authorizing optional tasks 12.12e in the amount of \$41,280 and 2.50 for \$13,432 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0015	03/20/12	073-0015	Proposal for additional services in Response to Approved (ECP) FD-034 Operation Performance and Safety Enhancements to 4th and King and 6th and King.	1			+26,026	FD-034 was updated by CMB on 3/14/12. Proposal transmitted via letter CS1553 No. 0012 dated 3/20/12 to DOM. Amendment #4 PENDING	Option
1553-0016	03/23/12	073-0016	Proposal for additional work - Tunnel Air Replenishment System (Exercise Optional Service)	7	Authorized	04/26/12	+173,119	SFMTA letter 1658 from Director of Transportation dated 4/26/2012 authorizing \$173,119 in optional tasks. Included in FD-035 to be presented to CMB on 6/26/12	Option
1553-0017	05/14/12	073-0017	Extension of PC Support Technician	1	Authorized	05/04/12	+34,483	Signed by Director of Transportation 5/14/12 COMPLETE, NO FURTHER ACTION; Amendment #3	Amendment 3 Approved
1553-0018	05/14/12	073-0018	Extension of CSP Quality Manager	1	Authorized	05/04/12	+61,043	Signed by Director of Transportation 5/14/12 COMPLETE, NO FURTHER ACTION; Amendment #3	Amendment 3 Approved
1553-0019	04/09/12	073-0019	Authorization to commence optional task 12.02 Utility Plans for design of repositioned and reconstructed manholes for the 78 inch diameter sewer on 4th St.	1	Authorized	04/09/12	+52,712	SFMTA Letter 1630 from the Director of Transportation dated 4/9/2012 authorizing optional task 12.02 in the amount of \$52,712 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0020	04/09/12	073-0020	Authorization to commence optional task 12.12 civil and structural support for traction power duct banks	1	Authorized	04/09/12	+109,000	SFMTA Letter 1630 from the Director of Transportation dated 4/9/2012 authorizing optional task 12.12 in the amount of \$109,000 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0021	04/26/12	073-0021	Authorization to commence optional task 12.11 design of the tunnel based Air Replenishment System including fill panels, feeder pipes, gauges, valves, fire proofing, anchors, supports, low level alarms, wiring, signage, connections to SCADA and monitoring devices, equipment placement, and impact protection	1	Authorized	04/26/12	+173,119	SFMTA Letter 1658 from the Director of Transportation dated 4/26/2012 authorizing optional task 12.11 in the amount of \$173,119 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0022	04/26/12	073-0022	Increased authorization for optional task 12.12.e CAD production support	1	Authorized	04/26/12	+30,000	SFMTA Letter 1658 from the Director of Transportation dated 4/26/2012 authorizing the increase in optional task 12.12e in the amount of \$30,000 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0023	05/21/12	073-0023	Authorization to commence option task 12.11 structural design support for Fire Protection and Plumbing designs	1	Authorized	05/21/12	+39,204	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 12.11 in the amount of \$39,204 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0024	05/21/12	073-0024	Authorization to commence optional task 12.12 structural design support for Traction Power and Power/Lighting designs	1	Authorized	05/21/12	+43,638	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 12.12 in the amount of \$43,638 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0025	05/21/12	073-0025	Authorization to commence optional task 12.13 structural design support for Telephone and CCTV designs	1	Authorized	05/21/12	+24,328	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 12.13 in the amount of \$24,328 COMPLETE, NO FURTHER ACTION; OPTION	Option
1553-0026	05/21/12	073-0026	Authorization to commence optional task 9.20 Technical Specifications for structural design support for above designs	1	Authorized	05/21/12	+3,039	SFMTA Letter 1688 from the Director of Transportation dated 5/21/2012 authorizing the increase in optional task 9.20 in the amount of \$3,039 COMPLETE, NO FURTHER ACTION; OPTION	Option
Contract CS-155-3 Total							+2,046,831	Of the total cost exposure shown, Contract Modifications and Authorized Option dollars have been absorbed by DP3 allocated contingency in the amount of \$1,168,995 of a total budget of \$4,598,725. Overall contract value remains unchanged in the amount of \$19,919,526.	

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