central

subway

Connecting people. Connecting communities.

Memorandum

CS Memorandum No. 1275

То:	Distribution
From:	Susan MacKenzie, Document Control Manager
Date:	October 30, 2012
Reference:	Project No. M544.1, Contract No. CS-149 Task No. 1-8.02, Change Control
Subject:	Configuration Management Board Meeting No. 98
Subject:	Configuration Management Board Meeting No. 98

Attached please find minutes for Configuration Management Board Meeting No. 98 held on October 24, 2012.

Attachments: CMB Meeting No. 98 Rev. 0 Minutes with attachments

Cc: David Kuehn, STV (w/attachments) <u>david.kuehn@stvinc.com</u> Shahnam Farhangi, SFMTA (w/attachments) Joon Park, SFMTA (w/attachments) Arthur Wong, SFMTA (w/attachments) Jane Wang, SFMTA (w/attachments) Carlos Campillo, CSP (w/attachments) Quon Chin, CSP (w/attachments) Chuck Morganson, HNTB/B&C (w/attachments) Aileen Read, CSDG (w/attachments) CS File No. M544.1.5.0890

Distribution:

Brad Lebovitz, STV <u>bradley.lebovitz@stvinc.com</u> Luis Zurinaga, SFCTA (<u>luis.zurinaga@sfcta.org</u>) Matt Lee, SFCTA (<u>matt@sfcta.org</u>) John Funghi, SFMTA Albert Hoe, SFMTA Roger Nguyen, SFMTA Richard Redmond, CSP Ross Edwards, CSP Mark Latch, CSP Mark Benson, CSP Eric Stassevitch, CSP Beverly Ward, CSP Sarah Wilson, CSP Michael Acosta, DPW







CMB Meeting Minutes #98

DATE:	October 25, 2012
	0010001 20, 2012

- MEETING DATE: October 24, 2012
- LOCATION: 821 Howard St, Main Conference Room

TIME: 3:00 PM

- ATTENDEES: J Funghi (JF), R. Nguyen (RN), A. Hoe (AH), R. Edwards (RE), M. Latch (ML), Richard Redmond (RR), M. Benson (MB), E. Stassevitch (ES), B. Ward (BW), M. Acosta (MA), S. Wilson (SW), L. Zurinaga (LZ), M. Lee (ML), B. Lebovitz (BL)
- COPIES TO: Attendees: S. Farhangi (SF), A. Wong (AW), Q. Chin (QC), J. Wang (JW), C. Campillo (CC), C. Morganson (CM), A. Read (AR), J. Park (JP), 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 # 98– Rev. No. 0

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

ITEM #	DISCUSSION	ACTION BY DUE DATE
1	1251 – M. Benson and M. Acosta presented for approval Trend Nos. 38 - JCDeaux's removal of 2EA kiosks; Trend No. 39 - installations of two each furnished benches along 5 th St., Trend No. 54 - Additional Waterproofing at FIDM and north end of Crate & Barrel, Trend No. 62 Additional Waterproofing at Macy's Men's land Trend No. 73, Additional work to install water and electrical Utilities for Fowler Stand on Gary west of Stockton. The CMB suggested the RE revise the supplemental change analysis for Trend #38 to include statement regarding "SFMTA's inability to get the contractor to perform the work until advance payment had been received, additionally the Contractor required payment for related work already completed". AGREE – CMB 0080	
2	1252 – M. Benson and Sarah Wilson presented for evaluation of merit COR 008 - Time Impact Analysis (TIA) for time extension of up to seven days (7) calendar days and relating to work to be performed under COR 001 AWSS Conflict with Low Pressure Water at Harrison, COR 002 Additional AWSS restraining @ 4 th & Harrison and COR 003 AT&T Vault conflict w/ 42" RCP Sewer Main, which were presented at CMB meeting #97. The contract documents do not give an accurate depiction of these changes and additional which impact the critical path activities. The CMB agreed with the evaluation of merit presented by the Construction team and directed the RE to go forward with contract change. In addition the RE stated that time impact costs associated with this COR will be brought back to the CMB for approval.	







ACTION ITEMS

ITEM #	MTG DATE	MTG ACTION DATE	DESCRIPTION	BIC	DUE DATE	STATUS
1	07/18/12	07/18/12	1252 - Grant Street Detour Cost Comparison	M. Benson	07/25/12	Open
3	07/25/12	08/01/12	1252 – MOS Traffic Signal Reroute (Trend#15)	M. Benson	08/15/12	Open
3	10/03/12	10/03/12	1251 – Detour Signage Quote from DPT	M. Benson	10/17/12	Open
5	08/08/12	08/29/12	1252 - PCC 1252-02 UMS Headwalls	M. Benson	10/10/12	Open
3	10/03/12	10/03/12	1252 – PCC 1252-03 Traffic Detour Signage	M. Benson	11/07/12	Open

Meeting adjourned at 4:40pm

These meeting minutes have been prepared by B. Ward and reviewed by E. Stassevitch, 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.

[initials of preparer & reviewer] Date: DOd [2 [Date review completed] Signed:



Meeting Agenda

Project No. M544.1, Contract No. CS-149 Program/Construction Management Configuration Management Board (CMB) Meeting No. 98 October 24, 2012 3:00pm – 5:00pm Central Subway Project Office 821 Howard St. 2nd Floor Main Conference Room

Attendees:

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

- 1. 1250 Nothing to Report
- 1251 Additional Work Related to JCDecaux, Waterproofing, Muni Bench and Flower Stand (Trend Nos. 38, 39, 54, 62 and 73) – For Approval

-Additional Work Related to Qwest, TCG and UCCO (Trend No. 77) - For Approval

- 3. 1252 COR 8 (Trend No. 6): TIA for CORs 1, 2, & 3 For Merit (COR's previously discussed at CMB Mtg. 10/10/12)
- 4. 1253 (UMS) Nothing to Report
- 5. 1254 (CTS) Nothing to Report
- 6. 1255 (MOS) Nothing to Report
- 7. 1256 (STS) Nothing to Report
- 8. Trend/Change Log –
- 9. Other Business -







Meeting Attendance Sheet

Project No. M544.1, Contract No. 149 Program/Construction Management Configuration Management Board Meeting No. 98 October 24, 2012 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 nam		ter initials if your na	me is listed below. ail address if your name is not listed b	pelow.
Benson, Mark	CSP	(415) 701-4295	Mark.Benson@sfmta.com	MCB
Dombrowski, Charles	Hill/PCC	(415) 701-5272	Charles.Dombrowski@sfmta.com	
Edwards, Ross	CSP	(415) 581-5165	Ross.Edwards@sfmta.com	ype
Farhangi, Shahnam	SFMTA	(415) 554-0721	Shahnam.Farhangi@sfmta.com	
Funghi, John	SFMTA	(415) 701-4299	John.Funghi@sfmta.com	A
Haley, John	SFMTA		John.Haley@sfmta.com	/
Hoe, Albert	SFMTA	(415) 581-5164	Albert.Hoe@sfmta.com	AB
Kelly, Jim	SFMTA	4	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	MOL
Lebovitz, Brad	STV/PMOC	(510) 464-8052	Bradley.lebovitz@stvinc.com	Bh
Lee, Matt	SFCTA	(415) 522-4813	matt@sfcta.org	MAL







NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
Nguyen, Roger	SFMTA	(415) 701-4312	Roger.Nguyen@sfmta.com	RV_
Park, Joon	SFMTA	(415) 701-4742	Joon.Park@sfmta.com	
Redmond, Richard	CSP	(415) 701-4288	Richard.Redmon@sfmta.com	RR
Stassevitch, Eric	CSP	(415) 701-4426	Eric.Stassevitch@sfmta.com	H.
Ward, Beverly	CSP	(415) 701-5291	Beverly.Ward@sfmta.com	PON
Wong, Arthur	SFMTA	(415) 701-4305	Arthur.Wong@sfmta.com	
Zurinaga, Luis	SFCTA	(415) 716-6956	Luis.zurinaga@sfcta.org	78m
Mike Acosta	CSP	701-5282		An
sarah Wilson	CSP	243.0950	sarah. wilson @sfruta.cor	h
	5			

a ...



CMB Change No.: <u>CMB – 0080</u> Initial Implementing Change Control Procedure No.:_1251 – CMod Trend #38, 39, 54, 62 and 73

			GENERA	AL_	· · · · ·	
Proposed Change Sponsor:	in the second se	M. Acos	sta	R	eceived by CMB:	10/24/2012
Affected Disciplines:	Utilities					(Date)
		oroofing				
				<u> </u>		
Impacts of Change					val of kiosks	20 co. ateresion
	2.	Trend #39	 Installation 	on of tw	o each furnished bench	es along 5 th St.
	3. Tr ar				rproofing at FIDM and n	orth end of Crate
	4.	Trend #62	- Additiona	al Water	rproofing at Macy's Mer	i's wall
 Trend #73 - Additional work to install Water and Electrical Utilities for Flower Stand on Geary west of Stockton 					ctrical Utilities for	
Contract(s) Directly Affe	cted by t	his Propo	osed Cha	ange:		
1250 1251 1252	1253	1254	1255	125	6	
	4	5	6	7		
(CP01) (CP02) (CP03)	(CP04)	(CP05)	(CP06)	(CPO		S
	5010111		NOLINE	Signa		
		-	ee with th Change	•	Disagree with the Change	Date
Senior Program	Manage	r: ()				10-24-12
Deputy Program	Manage	: (d	S			10/24/12
PM Project	Services	s:	1			1
PM Project Development	/Delivery	: MR	1dil	7		10/24/2012
SFMTA O & M	Manage	r:				
SFMTA Safety and	I Securit	y				
	TA PM		the	/		2410/12
		C	Commen	its		
				-		



TREND NUMBERS 38, 39, 54, 62 AND 73

SFMTA Contract No. 1251 UNION SQUARE/MARKET STREET STATION

UTILITIES RELOCATION

Contractor:

Synergy Project Management Inc. 30 Grant Street, Suite 300 San Francisco, CA 94108

SUPPLEMENTAL CHANGE ANALYSIS (FOR CMB APPROVAL)

SCOPE OF WORK:

Trend 38: Reimburse Synergy for JCDecaux's removal of 2EA kiosks and other Central Subway related work.

Trend 39: Furnish and install 2EA benches along 5th Street.

Trend 54: Additional waterproofing at FIDM and north end of Crate and Barrel.

Trend 62: Additional waterproofing at Macy's Men's wall.

Trend 73: Additional work to install water and electrical utilities for flower stand on Geary west of Stockton.

REASON FOR CHANGE:

<u>Trend 38:</u> JCDecaux kiosks (2EA) were required to be removed in order to complete CN 1251 Contract work. However, JCDecaux required payment from the Contractor prior to completing this removal work. Additionally, JCDecaux required payment for work Central Subway related work already completed.

Trend 39: MUNI Operations requested installation of 2EA benches after the completion of the trolley reroute.

<u>Trend 54:</u> The sidewalk in front of FIDM and the north end of Crate and barrel did not have a subsidewalk basement, therefore the original Contract plans did not call for waterproofing of the primary wall. While performing joint trench excavation work, the Contractor found the existing waterproofing to be spalling and peeling off from the primary wall. See attached sketch for locations referred to above.

<u>Trend 62:</u> Contract plans did not call for waterproofing the Macy's Men's property wall. However, when the Contractor dug for the joint trench, it was found that the existing waterproofing has deteriorated and needed to be replaced. See attached photo.

<u>Trend 73:</u> The Contract Bid Item allowance for providing utility services for flower stands (UD-14) was exhausted during relocation of the first 2 flower stands. The costs contained herein are related to the relocation of the third and final flower stand.



Municipal Transportation Agency



Ň

COST SUMMARY TABLE:

Trend Number:	Description of Additional Work Performed:	Contractor's Cost Proposal	Forecasted NTE Cost:	Trended Amount
38	JCDecaux kiosk removal	\$29,272.79	\$29,272.79	\$29,267.83
39	MUNI Benches	\$4,549.50	\$4,857.78	\$5,250.00
54	FIDM/C&B waterproofing	\$8,150.61	\$8,150.61	\$8,150.61
62	Macy's waterproofing	\$24,774.06	\$24,774.06	\$24,774.06
73	Additional flower stand work	\$23,557.33	\$18,840.40	\$15,000.00
	TOTAL	\$90,324.29	\$85,895.64	\$82,442.50

COST ANALYSIS:

Each of the FARs/invoices submitted by the Contractor was thoroughly reviewed by the SFMTA Resident Engineer. After this comprehensive review it was determined that the final value of these items will not exceed the \$85,895.64 total shown in the Cost Summary Table. Note that these final negotiations have not yet taken place therefore the 'Forecast NTE Cost' should not be considered a final agreed cost but rather a ceiling for future negotiations.

Approval of the NTE cost contained herein will allow the Resident Engineer to conduct final negotiations with the Contractor which in turn will facilitate the compilation and execution of a Contract Modification.

SCHEDULE ANALYSIS:

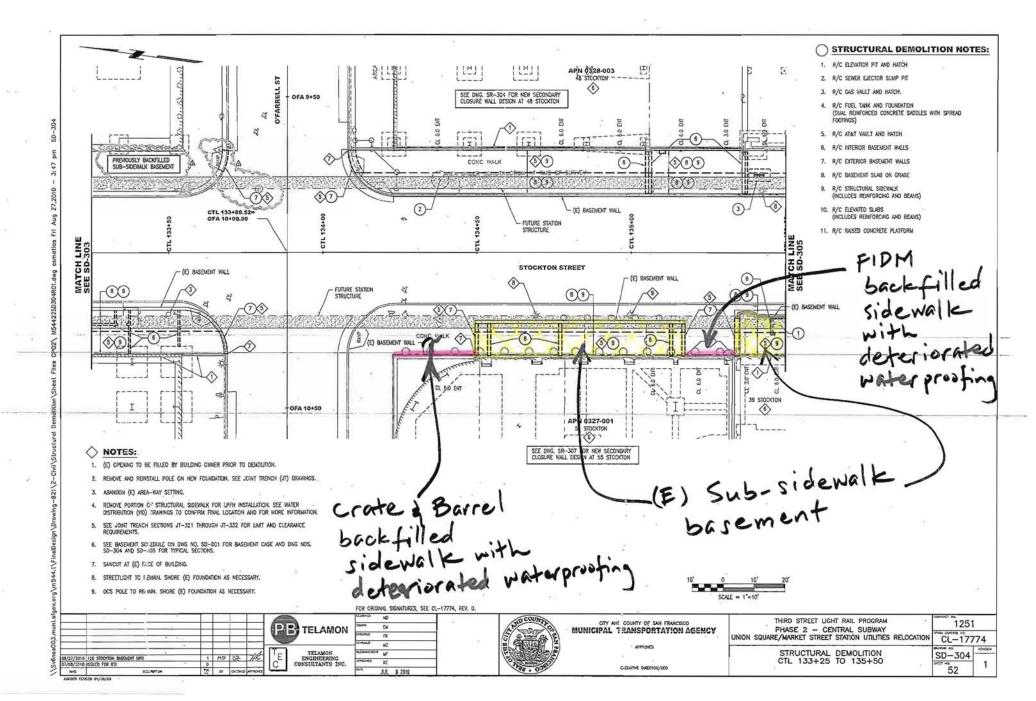
This work does not impact the Substantial Completion Date. There is no time adjustment associated with this Contract Modification.

SUMMARY TABLE FOR TRENDS 38/39/54/62/73

SFMTA Central Subway Contract Number 1251 - Union Square/Market Street Station Utilities Relocation

ltem #	Index #	FA #	Description	Synergy Requested Amount	SFMTA Current Approved Amount	Forecasted Final Amount	Outstanding Cost Differences
	1.1		JC Decaux Check	\$29,272.79	\$29,272.79	\$29,272.79	
						\$0.00	
			Trend No. 38 Subtotal	\$29,272.79	\$29,272.79	\$29,272.79	
	2.1		Bench Fabrication	\$3,482.79	\$3,885.48	\$3,885.48	
	2.2	3275	Install benches	\$1,066.71	\$972.30	\$972.30	
						\$0.00	
			Trend No. 39 Subtotal	\$4,549.50	\$4,857.78	\$4,857.78	
	3.1		Alliance Roofing Invoice	\$8,150.61	\$8,150.61	\$8,150.61	
						\$0.00	
			Trend No. 54 Subtotal	\$8,150.61	\$8,150.61	\$8,150.61	
	4.1		COR 20R	\$24,774.06	\$24,774.06	\$24,774.06	
						\$0.00	
			Trend No. 62 Subtotal	\$24,774.06	\$24,774.06	\$24,774.06	
	5.1	2001	Engineering and surveying work to locate power, phone and water for 3 flower stnads	\$5,296.02	\$4,667.34	\$4,667.34	
	5.11	3442	Al's Flower Stand. Look for existing electrical line afor new stand relocation	\$3,935.16	\$2,706.28	\$2,706.28	
	5.4	3450	Pothole for possible sleeve on Geary W for AI's Flower Stand	\$1,331.36	\$1,235.37	\$1,235.37	
	5.5	3456	Pot hole for utilities for flower stand relocation on Stockton.	\$3,935.16	\$2,191.04	\$2,191.04	
	5.7	3477	Relocated flower stand to new location on Geary.	\$2,434.12	\$1,489.47	\$1,489.47	
	5.8	3478	New utility installation for relocated flower stand.	\$2,066.87	\$1,930.04	\$1,930.04	
	5.9	3478b	Relocation of flower stand. Installation of water line & electrical.	\$1,827.73	\$1,827.73	\$1,827.73	
	5.10	3479	New utility installation for relocated flower stand.	\$2,750.91	\$2,793.13	\$2,793.13	
			Trend No. 73 Subtotal	\$23,577.33	\$18,840.40	\$18,840.40	

	Synergy Request Amount	SFMTA Current Approved Amount	Forecasted Final Amount	Trended Amount
Trend Numer 38 Subtotal	\$29,272.79	\$29,272.79	\$29,272.79	\$29,267.83
Trend Numer 39 Subtotal	\$4,549.50	\$4,857.78	\$4,857.78	\$5,250.00
Trend Numer 54 Subtotal	\$8,150.61	\$8,150.61	\$8,150.61	\$8,150.61
Trend Numer 62 Subtotal	\$24,774.06	\$24,774.06	\$24,774.06	\$24,774.06
Trend Numer 73 Subtotal	\$23,577.33	\$18,840.40	\$18,840.40	\$15,000.00
TOTAL CONTRACT MODIFCATION VALUE	\$90,324.29	\$85,895.64	\$85,895.64	\$82,442.50







SFMTA Contract No. 1252

Contractor:

Barnard Impregilo Healy JV (BIH)

EVALUATION OF MERIT

COR 008

Recommendation: Accept justification of Merit for COR 008 for a time extension of up to seven (7) calendar days. COR001 AWSS Conflict with Low Pressure Water Line, COR002 Additional AWSS Restraining at 4th and Harrison, and COR003 ATT Vault conflict with 42" RCP Sewer Main all had impacts to critical path activities. The contract documents do not accurately depict these changes. Additional time was required to the critical path to accomplish the contract work and additional work.

Facts: Merit was established for COR001, 002, and 003 in CMB on October 10, 2012 (see Attachment A)

- COR001 AWSS Conflict with Low Pressure Water Line
- COR002 Additional AWSS Restraining at 4th and Harrison
- COR003 ATT Vault conflict with 42" RCP Sewer Main

Rationale for COR: BIH's subcontractor, Synergy Project Management's (SPM) original means and methods relied on completion of Installation of the Force Main Sewer Crossing (East) (TUN-03-2080), Installation of Sewer Tie In (East) (TUN-03-2050), and a portion of AWSS Modifications (North-East) (TUN-03-2060) before switching traffic over to the West side of 4th Street. SPM planned to work one side of the street at a time to let traffic through. Unforeseen changes (COR001, 002, and 003) to the utilities on the east side of 4th Street kept work from progressing to the west side of 4th Street. Once traffic was moved to the west side of 4th Street the critical path activities could proceed.

Justification: BIH partially mitigated the time impact associated with COR's 001, 002, and 003 by re-sequencing and performing other critical path activities while working with the SFMTA to address differing conditions and additional work. BIH claims 8.26 calendar days of additional work is on the critical path. BIH's Time Impact Analysis (TIA) used their version of an "as built" critical path schedule and counted up their delay activities on the critical path. The SFMTA reviewed the submitted TIA with the inspector's daily reports and submitted force account tags. The SFMTA does not agree with BIH's replication and calculations. Our own analysis compared the baseline sequence to the actual sequence with delays and found that seven (7) calendar days were added to the contract substantial completion date (see Attachment B).

Jarah Wilson By:

Sarah Wilson Resident Engineer

10/24/12

Configuration Management Board Approval

10/24/12 Date



Municipal Transportation Agency



SFMTA Contract No. 1252

Contractor:

Barnard Impregilo Healy JV (BIH)

EVALUATION OF MERIT

COR 001

Recommendation: Accept justification of Merit for COR 001. The contract documents do not accurately depict the correct location of a water line which impacted the planned means and method of performing contract work associated with AWSS removal and relocation. Additional effort (labor and time) was required to accomplish the contract work.

Facts: An existing low pressure 12" Water line which runs west to east at the intersection of Fourth St. and Harrison St. Is shown on contract drawing UT-501, Rev. 0 to be approximately 3' north of an existing 12" AWSS "T" fitting. During the excavation required for the contract AWSS removal and relocation work BIH's subcontractor, Synergy Project Management (Synergy or SPM), discovered that the existing water line was actually further south than was indicated in the drawings which positioned it almost directly above the AWSS "T" fitting or point of connection. Furthermore, because the water line was farther south than was expected it was placed in close proximity to an existing electrical duct bank.

Rationale for COR: SPM's original means and methods relied on excavating a tunnel from both sides of the existing duct bank to access the AWSS "T." Due to the close proximity of the existing water line to the duct bank, excavation could only be performed from one side thus increasing the amount of time spent on excavating around the AWSS fittings. Also because the water line was located closely above the existing AWSS point of connection additional time was spent removing the existing AWSS fittings and installing the new AWSS fittings required for the work.

Justification: BIH justification for the COR is that the actual location of the water line impacted the original means and methods making it more difficult to perform the AWSS contract work; "Synergy's crew spent additional time excavating material surrounding the AWSS "T" fitting because their originally assumed means and methods couldn't be implemented. Synergy's crew also spent additional time removing existing AWSS fittings and installing and restraining new AWSS fittings."

Note: this COR also relates to a time impact analysis which has been received under cover of COR 008.

By: Sarah Wilson Resident Engineer Configuration Management Board Approval

SFMTA

Municipal Transportation Agency

821 Howard Street 415 701 5262 Phone San Francisco, Ca 94 103 415 701 5222 Fax



SFMTA Contract No. 1252

Contractor:

Barnard Impregilo Healy JV (BIH)

EVALUATION of MERIT

COR 002

Recommendation: Accept justification of merit for COR 002. SFMTA directed the additional work to restrain the AWSS line, not contained in contract documents.

Facts: During excavation for contract work, AWSS relocation, at the intersection of Fourth and Harrison Street, BIH's subcontractor Synergy Project Management (SPM) uncovered a section of pipe north of the AWSS "T" fitting which was unrestrained and badly rusted, not conforming to current code.

Rationale for COR: SFMTA issued a response to RFI 56 directing the Contractor to restrain the AWSS pipe. The RFI response prepared by Michael Smith of the San Francisco Department of Public Works stated: "Added 04/18/12: Following confirmation after SFDPW field inspection of exposed AWSS line, 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." Additional details of the connections were then provided by SFMTA for Contractor to execute the work.

Justification: The following activities were required to be performed in order to Install the new restraining materials: roadway surface demolition, soil excavation, utility demolition, Installation of new AWSS piping, hydrostatic testing, backfill and compaction, restoration and traffic control devices.

Note: this COR also relates to a time impact analysis which has been received under cover of COR 008.

By: arah Wilson

Resident Engineer

Configuration Management Board Approval



SFMTA Contract No. 1252

Contractor:

Barnard Impregilo Healy JV

EVALUATION of MERIT

COR 003

Recommendation: Accept justification for merit of COR 003. The existing AT&T vault and duct bank were not correctly shown on the contract drawings, and interfered with contract installation work related to the sewer main. Additional effort was needed to accomplish the contract work.

Facts: During excavation at the intersection of Fourth St. and Harrison St., BIH's subcontractor Synergy Project Management (SPM) discovered that an existing AT&T vault and duct bank conflicted with the installation of the 35 lineal feet of 42" RCP required as shown on contract drawing SW-5, Rev. 0.

Rationale for COR: AT&T inspector David Gibbons field verified the conflict and approved the removal of a portion of the vault and duct bank to ensure the completion of the sewer main. This approval was documented in the responses to **RFIs** 49, 49.1, and 49.2.

Justification: The following additional activities were required to be performed in order to complete the installation of the sewer main: chip away the duct bank concrete encasement, chip away a portion of the vault's NE corner, concrete disposal, new construction of the vault's NE wall and new construction of the concrete encasement surrounding the duct bank.

Note: this COR also relates to a time impact analysis which has been received under cover of COR 008.

By: Aarah Wilson

Resident Engineer

Configuration Management Board Approval

Municipal Transportation Agency

Activity ID	Activity Name	Org Start	Finish	Total				
		Dur		Float M	/ A M J Jul A S O N D J F M A M J Jul A S O N D J F M			
CSP-1252	2- Construction Tunnels No Delay	945 30-Mar-12 A	02-Apr-15	- 11				
4th & Brv	ant Street TBM Launch Box Construction	321 30-Mar-12 A	11-Apr-13	-11				
Launch Bo		41 30-Mar-12 A	04-Jun-12	-9				
FUN-03-2020	Launch Box - Remove Utilities (East)	10 30-Mar-12 A	13-Apr-12	-9	Launch Box - Remove Utilities (East)			
TUN-03-2080	Launch Box - Install Force Main Sewer Crossing (East)	15 06-Apr-12	26-Apr-12	-9	Launch Box - Install Force Main Sewer Crossing (East)			
TUN-03-2050	Launch Box - Install Sewer Tie In (East)	15 13-Apr-12	03-May-12	-9	Launch Box - Install Sewer Tie In (East)			
TUN-03-2060	Launch Box - AWSS Modifications (North-East)	15 04-May-12	24-May-12	-9	Launch Box - AWSS Modifications (North-East)			
Utilities We		16 11-May-12	04-Jun-12	-9				
TUN-03-2010	Launch Box - Setup Traffic Control for Launch Box (West)	1 11-May-12	11-May-12	-9	I Launch Box - Setup Traffic Control for Launch Box (West)			
TUN-03-2040	Launch Box - Remove Utilities (West)	10 14-May-12	25-May-12	-9	Launch Box - Remove Utilities (West)			
TUN-03-2070	Launch Box - AWSS Modifications (South-West)	10 21-May-12	04-Jun-12	-9	Launch Box - AWSS Modifications (South-West)			
Construct	Launch Box	276 26-May-12	11-Apr-13	-11				
Tunneling	g/ Cross Passages/ Portal Structure	624 12-Apr-13	02-Apr-15	-11				
	Contract Milestones	0 02-Apr-15	02-Apr-15	-11				
TUN-01-1060	Substantial Completion	0	02-Apr-15*	-11				
		956 30-Mar-12 A	02-Apr-15	· · ·	-			
CSP-1252	2-TIA001 Construction Tunnels TIA001/COR008			-17				
4th & Bry	vant Street TBM Launch Box Construction	332 30-Mar-12 A	18-Apr-13	-18	Difference het			
Launch Bo	ox Utilities	49 30-Mar-12 A	08-Jun-12	-13	Difference betv			
TUN-03-2020	Launch Box - Remove Utilities (East)	10 30-Mar-12 A	13-Apr-12	-13	Launch Box - Remove Utilities (East) April 9, 2015 is			
TUN-03-20	060 AWSS MODIFICATIONS (NORTH-EAST)	33 02-Apr-12	16-May-12	-13				
TUN-03-2060A	Saw cut and Start AWSS Excavation	3 02-Apr-12	04-Apr-12	-13	Saw cut and Start AWSS Excavation			
COR-01-010	COR 1 - Slow Excavation due to 12" Water Line	1 09-Apr-12	09-Apr-12	-13	I COR 1 - Slow Excavation due to 12" Water Line			
TUN-03-2060B	Continue AWSS Excavation	2 10-Apr-12	11-Apr-12	-13	I Continue AWSS Excavation			
COR-02-040	COR 2 - Reset Traffic and SFMTA checks Tee (RFI 56)	13-Apr-12	13-Apr-12	-13	I COR 2 - Reset Traffic and SFMTA checks Tee (RFI 56)			
TUN-03-2060C	Install Part of AWSS Pipe and Fitting	1 16-Apr-12	16-Apr-12	-13	I Install Part of AWSS Pipe and Fitting			
COR-01-020	COR 1 - Additional Time to Install AWSS Pipe/Fittings due to 12" Water Line	17-Apr-12	17-Apr-12	-13	I COR 1 - Additional Time to Install AWSS Pipe/Fittings due to 12 Water Line			
COR-02-100	COR 2 - Added Excavation for AWSS Section	2 18-Apr-12	19-Apr-12	-13	I COR 2 - Added Excavation for AWSS Section			
TUN-03-2060D	Excavate and Remove 16" Gas Line	1 20-Apr-12	20-Apr-12	-13	I Excavate and Remove 16" Gas Line			
TUN-03-2060E	Plate Road (can work two areas at once)	0 23-Apr-12		-13	 Plate Road (can work two areas at once) 			
TUN-03-2060F	Excavate and prep for new AWSS	4 23-Apr-12	26-Apr-12	-13	Excavate and prep for new AWSS			
COR-02-110	COR 02 - Remove Concrete from Muni Conduits, Excavate to AWSS & Added Installation	3 27-Apr-12	01-May-12	-13	COR 02 - Remove Concrete from Muni Conduits, Excavate to AWSS & Added Insta			
TUN-03-2060G	Install AWSS, Line Test, Pour Thrust Block, and Back Fill	4 02-May-12	07-May-12	-13	Install AWSS, Line Test, Pour Thrust Block, and Back Fil			
TUN-03-2060H	Pressure Test, Hydrostatic Test, Back Fill	2 10-May-12	11-May-12	-13	Pressure Test, Hydrostatic Test, Back Fill			
COR-02-190	COR 02- Additional Testing and Back Fill	14-May-12	14-May-12	-13	I COR 02- Additional Testing and Back Fill			
TUN-03-20601	Pave	1 16-May-12	16-May-12	-13	I Pave			
TUN-03-20	050 INSTALL SEWER TIE IN (EAST)	25 05-Apr-12	09-May-12	-13				
TUN-03-2050A	Initial Sawcut and Excavation	1 05-Apr-12	05-Apr-12	-13	I Initial Sawcut and Excavation			
COR-03-020	COR 3 - Chip (E) ATT Vault & Duct Banks Due To 42" RCP Sewer Conflict	1 06-Apr-12	06-Apr-12	-13	I COR 3 - Chip (E) ATT Vault & Duct Banks Due To 42 RCP Sewer Conflict			
TUN-03-2050B	Excavation for 42" RCP Sewer	1 12-Apr-12	12-Apr-12	-13	Excavation for 42" RCP Sewer			
	COR 3 - Move Traffic, Remove Gas Line, Chip Vault	0 00 Amr 10	24-Apr-12	-13	COR 3 - Move Traffic, Remove Gas Line, Chip Vault			
COR-03-050	CON 3 - Move Trainc, nemove Gas Line, Onip Valit,	2 23-Apr-12	24-Api-12	-13				
	Install 42" RCP Sewer Main	8 25-Apr-12	04-May-12	-13	Install 42" RCP Sewer Main			
TUN-03-2050C			· ·					
COR-03-050 TUN-03-2050C TUN-03-2050D TUN-03-205	Install 42" RCP Sewer Main	8 25-Apr-12	04-May-12	-13	Install 42" RCP Sewer Main			
TUN-03-2050C TUN-03-2050D TUN-03-205	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main	8 25-Apr-12 2 08-May-12	04-May-12 09-May-12	-13 -13	Install 42" RCP Sewer Main			
TUN-03-2050C TUN-03-2050D TUN-03-205	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main 80 INSTALL FORCE MAIN SEWER CROSSING (EAST) Shoring and Excavation	8 25-Apr-12 2 08-May-12 1 15-May-12	04-May-12 09-May-12 15-May-12	-13 -13 -13	 Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main I Shoring and Excavation 			
TUN-03-2050C TUN-03-2050D TUN-03-2080A TUN-03-2080A Utilities We	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main 200 INSTALL FORCE MAIN SEWER CROSSING (EAST) Shoring and Excavation est Launch Box - Setup Traffic Control for Launch Box (West)	8 25-Apr-12 2 08-May-12 1 15-May-12 1 15-May-12 1 17-May-12 1 17-May-12	04-May-12 09-May-12 15-May-12 15-May-12	-13 -13 -13 -13 -13 -13 -13	 Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main I Shoring and Excavation I Launch Box - Setup Traffic Control for Launch Box (West) 			
TUN-03-2050C TUN-03-2050D TUN-03-2080A TUN-03-2080A Utilities We TUN-03-2010	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main 080 INSTALL FORCE MAIN SEWER CROSSING (EAST) Shoring and Excavation est	8 25-Apr-12 2 08-May-12 1 15-May-12 1 15-May-12 1 17-May-12	04-May-12 09-May-12 15-May-12 15-May-12 08-Jun-12	-13 -13 -13 -13 -13 -13	 Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main Shoring and Excavation Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West) 			
TUN-03-2050C TUN-03-2050D TUN-03-2080A Utilities We TUN-03-2010 TUN-03-2040	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main 200 INSTALL FORCE MAIN SEWER CROSSING (EAST) Shoring and Excavation est Launch Box - Setup Traffic Control for Launch Box (West)	8 25-Apr-12 2 08-May-12 1 15-May-12 1 15-May-12 1 17-May-12 1 17-May-12	04-May-12 09-May-12 15-May-12 15-May-12 08-Jun-12 17-May-12	-13 -13 -13 -13 -13 -13 -13	 Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main Shoring and Excavation Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West) Launch Box - AWSS Modifications (South-West) 			
TUN-03-2050C TUN-03-2050D TUN-03-2080A Utilities We TUN-03-2010 TUN-03-2040 TUN-03-2070	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main 180 INSTALL FORCE MAIN SEWER CROSSING (EAST) Shoring and Excavation est Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West)	8 25-Apr-12 2 08-May-12 1 15-May-12 1 15-May-12 1 17-May-12 1 17-May-12 1 17-May-12 1 17-May-12 1 17-May-12 1 17-May-12 1 18-May-12	04-May-12 09-May-12 15-May-12 15-May-12 08-Jun-12 17-May-12 01-Jun-12	-13 -13 -13 -13 -13 -13 -13 -13	 Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main Shoring and Excavation Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West) 			
TUN-03-2050C TUN-03-2050D TUN-03-2080A Utilities We TUN-03-2010 TUN-03-2010 TUN-03-2070 Construct	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main 080 INSTALL FORCE MAIN SEWER CROSSING (EAST) Shoring and Excavation est Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West) Launch Box - AWSS Modifications (South-West)	8 25-Apr-12 2 08-May-12 1 15-May-12 1 15-May-12 16 17-May-12 10 18-May-12 10 25-May-12 10 25-May-12	04-May-12 09-May-12 15-May-12 15-May-12 08-Jun-12 01-Jun-12 08-Jun-12	-13 -13 -13 -13 -13 -13 -13 -13 -13	 Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main Shoring and Excavation Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West) Launch Box - AWSS Modifications (South-West) 			
TUN-03-2050C TUN-03-2050D TUN-03-2080A Utilities We TUN-03-2010 TUN-03-2040 TUN-03-2070 Construct TUN-03-2070	Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main DB0 INSTALL FORCE MAIN SEWER CROSSING (EAST) Shoring and Excavation est Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West) Launch Box - AWSS Modifications (South-West) Launch Box	8 25-Apr-12 2 08-May-12 1 15-May-12 1 15-May-12 1 17-May-12 1 17-May-12 1 17-May-12 1 17-May-12 10 18-May-12 10 25-May-12 277 02-Jun-12	04-May-12 09-May-12 15-May-12 15-May-12 08-Jun-12 01-Jun-12 08-Jun-12 08-Jun-12 18-Apr-13	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13	 Install 42" RCP Sewer Main Contiune Install 42" RCP Sewer Main I Shoring and Excavation I Launch Box - Setup Traffic Control for Launch Box (West) Launch Box - Remove Utilities (West) Launch Box - AWSS Modifications (South-West) 			

