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Memorandum

CS Memorandum No. 1336

To: Distribution

From: Susan MacKenzie, Document Control Manager

Date: January 23, 2013

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

Subject: Configuration Management Board Meeting No. 109

Attached please find minutes for Configuration Management Board Meeting No. 109 held on January 9, 2013.

Attachments: CMB Meeting No. 109 Rev. 0 Minutes with attachments

Cc: David Kuehn, STV (w/attachments) david.kuehn@stvinc.com
Shahnam Farhangi, SFMTA (w/attachments)
Joon Park, SFMTA (w/attachments)
Arthur Wong, SFMTA (w/attachments)
Roger Nguyen, SFMTA (w/attachments)
Quon Chin, CSP (w/attachments)
Jane Wang, SFMTA (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 bradley.lebovitz@stvinc.com
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John Funghi, SFMTA
Albert Hoe, SFMTA
Richard Redmond, CSP
Ross Edwards, CSP
Eric Stassevitch, CSP
Mark Latch, CSP
Mark Benson, CSP
Beverly Ward, CSP
Sarah Wilson, CSP

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CMB Meeting Minutes #109

DATE: January 14, 2013

MEETING DATE: **January 09, 2013**

LOCATION: 821 Howard St, Main Conference Room

TIME: 3:00 PM

ATTENDEES: J Funghi (JF), A. Hoe (AH), R. Edwards (RE), M. Latch (ML), R. Redmond (RR), M. Benson (MB), E. Stassevitch (ES), B. Ward (BW), S. Wilson (SW), L. Zurinaga (LZ), B. Lebovitz (BL) M. Lee (ML)

COPIES TO: Attendees: S. Farhangi (SF), J. Park (JP), R. Nguyen (RN), A. Wong (AW), J. Wang (JW), Q. Chin (QC), C. Morganson (CM),A. Read (AR), 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 # 109 – Rev. No. 0

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

ITEM #	DISCUSSION	ACTION BY DUE DATE
2-12/06/12	1252 – M. Benson and S. Wilson presented for content and structure the Summary Record of Negotiations for **COR 007** - Oil filled pipe @ Launch Box**.** The CMB suggested the RE revised the summary to show the delta between the Contractor's estimate and the final negotiated amount, also to expand on the informational story of the timeline of negotiations. In addition the CMB also recommend the heading "Negotiated Reduction" referring to the incorrectly used labor rates for the subcontractor be revised to read "Disputed Amount". Status: *01/09 This item was not discussed at this week's meeting*	SW 12/19/12
10-12/06/12	1252 – S. Wilson presented Evaluation of Merit of, **COR 041 –** Full time flagger for one night shift of work. Emergency Flagger was provided per the request of the SFMTA in order to facilitate PG&E as required to finish the abandoning of the live power feed to the Launch Box area. **CMB agreed with merit** for work associated with use of flagger to facilitate the work. The CMB requested signoff to be submitted to PG&E and this item be tracked on force account to PG&E. COR will be re-written to include text "cost will be charged to PG&E". Status: *01/02 A revised COR was submitted for approval; however the CMB requested that additional rewrite be done to state that "Contractor provided a flagger at the request of SFMTA".* Status: *01/09 The RE presented COR 041 without a rewrite contending the merit information as written provides tells of the complete picture of what took place. The CMB was not in agreement and suggested flow of the statements was contradictory between the SFMTA and the Contractor and the language stating "The Contractor contends…" should be reworded.* The CMB directed the RE to handwrite the agreed verbiage on the Evaluation for Merit sheet presented to close the item. ***CLOSED***	
1-12/19/12	1251 – M. Acosta presented a Final Contract Value for CMods 1 through 12 and the remaining contract modification 13 thru 30 for a total value of $21,107,191. A final Bid Item	MB 01/16/13

ITEM #	DISCUSSION	ACTION BY DUE DATE
	Analysis determined there are 40 each ($299,008K) in unused bid items. The RE calculated the General Condition rate of 19.69% costs/credits from under/over usage. In addition the CMB directed the RE to use 15% General Conditions rate instead of the 19.69%. This item will be brought back to the CMB with the revised final contract cost. Status: 01/02 The Construction Manager reported the SFMTA Contract Administrator did not agree with the over/under usage for General Condition's rate of 15% and is not prepared to sign off unless evidence of an actual analysis is presented. The CMB directed the RE to write a paragraph of introduction stating that a thorough analysis of CN1250 was done and as in CN1251 the same Contractor same staff and equipment were used and based on that a calculation rate of 18% was reach, so a rate of 15% for general condition over/under will be used in CN1251. Status: *01/09 This item was not discussed at this week's meeting*	
3- 01/02/13	1252 – S. Wilson presented Evaluation of Merit of, **COR 062** – LB – Panel P-09 Buried Obstruction – Contractor encountered concrete encased 12in clay sewer pipe with slurry wall panel P-9 at the TBM Launch box 8 feet below the top of the SW guidewall. Concrete encasement is not shown on the drawings. The encasement required the Contractor to deviate from the designed excavation limits. The **CMB did not agree with merit** requesting the evaluation of merit be rewritten to address time impact, if any. In addition the CMB suggested the RE should include the inspector's daily tags as backup or reference the tag numbers in the write-up when force account work is involved. This item will be brought back to the CMB. Status: *01/09 This item was not discussed at this week's meeting*	SW 01/09/13
4- 01/02/13	1252 – S. Wilson presented Evaluation of Merit of, **COR 065** – LB – Panel P-12 Buried Obstruction Contractor encountered concrete encased 12in clay sewer pipe with slurry wall panel P-12 at the TBM Launch box 7 feet below the top of the SW guidewall. Concrete encasement is not shown on the drawings. The encasement prevented SW construction from occurring as originally planned. The **CMB did not agree with merit** requesting the evaluation of merit be rewritten to address time impact, if any. In addition the CMB suggested the RE should include the inspector's daily tags as backup or reference the tag numbers in the write-up when force account work is involved. This item will be brought back to the CMB. Status: *01/09 This item was not discussed at this week's meeting*	SW 01/09/13
5- 01/02/13	1252 – S. Wilson presented Evaluation of Merit of, **COR 067** – LB – Panel P-10 Buried Obstruction - Contractor encountered concrete encased 12in clay sewer pipe with slurry wall panel P-10 at the TBM Launch box 7 feet below the top of the SW guidewall. Concrete encasement is not shown on the drawings. The encasement prevented SW construction from occurring as originally planned The **CMB did not agree with merit** requesting the evaluation of merit be rewritten to address time impact, if any In addition the CMB suggested the RE should include the inspector's daily tags as backup or reference the tag numbers in the write-up when force account work is involved. This item will be brought back to the CMB. Status: *01/09 This item was not discussed at this week's meeting*	SW 01/09/13
1-	1252 – S. Wilson presented cost estimate and comparison (see attached) for **COR 026 –** For the removal of Asbestos Pipe at the south headwall. **AGREE – CMB 0085** – Not To Exceed value of $30K.	
2-	1252 – S. Wilson presented cost estimate and comparison (see attached) for **COR 006 –** For costs associated with guide wall excavation and forming inefficiencies due to the presence of live PG&E utilities. **AGREE – CMB 0088** – Not To Exceed value of $7,600.	
3-	1252 – S. Wilson presented cost estimate and comparison (see attached) for **COR 027 –** For the removal of Oil filled pipe at the south headwall. **AGREE – CMB 0089** – Not To Exceed value of $8,600.	

ITEM #	DISCUSSION	ACTION BY DUE DATE
4-	1252 – S. Wilson presented cost estimate and comparison (see attached) for **COR 022 –** For the removal of Asbestos Pipe at the north headwall. **AGREE – CMB 0089** – Not To Exceed value of $6K.	
5-	1252 – S. Wilson presented Evaluation of Merit of, **COR 011,** previously submitted at CMB meeting #105; without a rewrite as requested. The RE states the evaluation as it stands tells the complete story. The CMB agrees there is merit however ask that the incorporation of COR 17 as it relates to COR 11 be added suggestion the incorporation of text to include language that "the work is not on the critical path and there is no time extension". The CMB directed the RE to handwrite the agreed verbiage on the Evaluation for Merit from presented to close the item. ***CLOSED***	
6-	1252 – R. Edwards presented for approval a draft PCC 10 - Relocation of TBM Retrieval Shaft to Pagoda Theatre (see attached PCC-10). This change modifies Bid Item ST-4 Construction of Base Bid Permanent Retrieval Shaft, relocating the TBM retrieval shaft to 1731 – 1741 Powell Street, from its original design location on Columbus Ave. Contractor is requested to design a temporary TBM Retrieval Shaft located within the bounds of 1731 -1741 property, design and demolish entire existing building at 1731 – 1741 Powell. The CMB requested an interim step be added for an early design submittal by February 1st. In addition the initial authorizations to initiate the design work in the amount "Not to Exceed" value of $20K will be authorize on Force Account -"Section 6.05.C Work Performed by Special Forces or Other Special Services".	
7	1300 – R. Edwards presented for information - Sec. 01 20 00 Price and Payment Procedures – Allowance Item 13 Unforeseen Differing Conditions to be included in Addendum #3 the contract specifications language. This language as dictated in the Contract documents states to the Contractor "any known or unknown abandon utility facility, known or unknown abandoned utility facilities encountered are considered normal to work and not considered a differing site conditions.	
8-	The Project Trend/Change Control Log update thru 01/09/13 was reviewed as an update. Demonstrating the addition of COR and PCC #s for Contract 1252.	

ACTION ITEMS

ITEM #	MTG DATE	MTG ACTION DATE	DESCRIPTION	BIC	DUE DATE	STATUS
5	08/08/12	08/29/12	1252 – PCC 1252-02 UMS Headwalls	M. Benson	10/10/12	Open
1	11/07/12	11/07/12	1300 – WP 1254 – SF Planning Request	R. Edwards	11/28/12	Open
3	11/14/12	11/14/12	1252 – COR 033 – Retrieval Shaft – 20" Water Line	S. Wilson	11/21/12	Open
2	12/05/12	12/05/12	1252 – COR 007 – Summary Record of Negotiations – rewrite	S. Wilson	12/19/12	Open
10	12/05/12	12/05/12	1252 – COR 041 - Full time flagger – Re-write "to be charged to PG&E"	S. Wilson	12/19/12	**CLOSED**
2	12/12/12	12/12/12	1252 – Validation 1300 docs include as built information regarding Asbestos Pipes	R. Edwards	01/09/13	Open
1	12/19/12	12/19/12	1251 – Revised final contract cost	M. Benson	01/16/13	Open
3	01/02/13	01/02/13	1252 – COR 062 – LB – Panel P-09 Buried Obstruction	S. Wilson	01/09/13	Open

3	01/02/13	01/02/13	1252 – COR 062 – LB – Panel P-09 Buried Obstruction	S. Wilson	01/09/13	Open
4	01/02/13	01/02/13	1252 – COR 065 – LB – Panel P-12 Buried Obstruction	S. Wilson	01/09/13	Open
5	01/02/13	01/02/13	1252 – COR 067 – LB – Panel P-10 Buried Obstruction	S. Wilson	01/09/13	Open

Meeting adjourned at 6:45pm

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.

Signed: _____ _____ [initials of preparer & reviewer] **Date:** 15 Jan 13 [Date review completed]

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Meeting Agenda

Project No. M544.1, Contract No. CS-149
Program/Construction Management
Configuration Management Board (CMB) Meeting No. 109
January 09, 2013
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	Sarah Wilson
Shahnam Farhangi	David Kuehn	Joon Park	Arthur Wong
John Funghi	Mark Latch	Richard Redmond	Luis Zurinaga
John Haley	Brad Lebovitz	Eric Stassevitch	

1. **1252** – COR 011 - MOS – Traffic Signal line re-route south headwall – Merit, Re-write approval
   – COR 041 - LB Impacts due to live PG&E electrical lines (Flagging) - Merit, Re-write approval Cost; Not to Exceed Amount
   – COR 062 - LB – Panel P- 09 Buried Obstruction – Merit, Re-write approval
   – COR 065 - LB – Panel P-12 Buried Obstruction – Merit, Re-write approval
   – COR 067 - LB – Panel P-10 Buried Obstruction – Merit, Re-write approval
   – COR 006 - PG&E live electrical delays – Cost; Not to Exceed Amount
   – ~~COR 012 - MOS - Archaeological Standby North Headwall – Cost; Not to Exceed Amount~~
   – COR 022 - MOS - Asbestos Pipe at north headwall – Cost; Not to Exceed Amount
   – COR 026 - MOS - Asbestos Pipe at south headwall – Cost; Not to Exceed Amount
   – COR 027 - MOS - Oil filled Pipe at south headwall – Cost; Not to Exceed Amount
   – ~~COR 028 - Ellis asbestos abatement – Cost; Not to Exceed Amount~~
   – ~~PCC 001 - Revisions to Moscone North Headwall Elevation (Top) – Cost; Not to Exceed Amount~~
   – PCC 0XX - Relocation of TBM Retrieval Shaft to Pagoda Theatre - Info & Approval to send to Contractor
2. **1254 (CTS)** – ECP #FD-038 - Elongated Sidewalk Bulb-out at Chinatown Station
   (Previously presented at CMB Mtg. 11/07/12)
3. **1300 (SSTS)** – Addendum #3 - Sec. 01 20 00 Price and Payment Procedures – Differing Condition
4. **Trend/Change Log – 01/09/13**

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Meeting Attendance Sheet

Project No. M544.1, Contract No. 149
Program/Construction Management
Configuration Management Board Meeting No. 109
January 09, 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	MCB
Edwards, Ross	CSP	(415) 701-5296	Ross.Edwards@sfmta.com	
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	
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	
Lee, Matt	SFCTA	(415) 522-4813	matt@sfcta.org	
Nguyen, Roger	SFMTA	(415) 701-4312	Roger.Nguyen@sfmta.com	

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

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SFMTA Contract No. 1252 **Contractor:** Barnard Impregilo Healy JV (BIH)

EVALUATION OF MERIT

COR 011 # 17

Recommendation: Accept justification of Merit for COR 011, for re-routing traffic signal lines at the Moscone south headwall. A time extension has not been requested for this work. Costs for standby related to this work have been evaluated under COR 017.

Facts: During utility demolition excavation at the Moscone south headwall BIH's subcontractor, Synergy Project Management (SPM) discovered three existing live traffic signal conduits which ran lengthwise across the planned headwall. Drawing UD-403, Rev. 1 shows the existence of one live traffic signal line which crosses the southwest corner of the headwall and another live traffic signal line approximately 5' to 6' south of the headwall. The drawing requires that BIH maintain active utilities so these lines would need to be protected in place during construction.

Technical direction was provided on July 6, four days after receipt of the RFI related to this work to permanently re-route the traffic signal lines across the north leg of the intersection at Fourth and Bryant St. On July 7th SPM commenced traffic signal relocation and by August 2nd, 2012 the work was completed.

Rationale for COR: The traffic signal pull box and conduit were shown in a different location on the contract documents making this conflict an unknown differing condition.

Justification: The contract documents do not accurately depict the location of the existing traffic signal box and conduit. The field location of the utilities prohibited SPM from performing any utility demolition or guide wall work. Utility relocation was necessary in order for the utility demolition to be completed and for the Moscone headwalls to be constructed.

Given auth by CMB on 7/25/12 for $40K. SW

By: Sarah Wilson 12/4/12
Sarah Wilson Date
Resident Engineer

12-4-12
Configuration Management Board Approval Date

COPY

SFMTA Contract No. 1252 **Contractor:** Barnard Impregilo Healy JV (BIH)

EVALUATION OF MERIT

COR 041

Recommendation: Accept Justification of Merit for COR 041 - providing a full time flagger for one night shift of work @ the intersection of the I-80 off-ramp. Reimbursement will be made part of the Form B process to recoup costs from PG&E.

Facts: On May 21st, based on direction from the SFMTA, the Contractor provided a full time flagger for one night shift of work @ the intersection of the I-80 off-ramp near 4th/Bryant streets.

Contractor Rationale for COR: The Contractor contends that the flagger was provided per the request of the SFMTA in order to facilitate PGE as required to finish the abandoning of the live power feed to the Launch Box area. The Contractor was directed to track the costs on Force account.

Justification: PGE needed flagging assistance in the intersection of the I-80 off-ramp in order to access the PGE vault which provided power to the Launch Box area. The utilities leading from the vault were shown in the contract drawings to be abandoned.

Change Type – (2) Unforeseen Condition and (6) Private Utility

By: Sarah Wilson 1/2/13

Sarah Wilson
Resident Engineer — Date

1-2-13

Configuration Management Board
Approval — Date

Change Order Cost Analysis Guidelines

Labor: Cost for change order labor hours shall align with the prevailing wage rate for each applicable trade designation. These shall align with the approved submittal required in GP 6.04 Sect. A1. Prevailing labor wage rates may be found on the Department of Industrial Relations website (http://www.dir.ca.gov/OPRL/PWD/).

Material: Cost for materials applicable to proposed change orders shall be limited to direct cost including sales tax. Delivery costs may be applied if the delivery is strictly due to the proposed change order. See GP 6.04 Sect. A2.

Equipment: Rates used for equipment shall align with the approved submittal required in GP 6.04 Sect. A3. This submittal represents the approved equipment rates showing the lesser rate between the California Department of Transportation's Labor Surcharge & Equipment Rental Rate book and the Machinery Information Division of PRIMEDIA Information, Inc's Rental Rate Blue Book.

Taxes and Labor Burdens:

Social Security – 6.2%*
Medicare – 1.45%*
Federal Unemployment Tax Act. – 0.6%* (Net of 6.0% and 5.4% annual credit)
State Unemployment Insurance – 6.2%*
City/County Payroll Expense Tax – 1.5%* (www.sftreasurer.org/index.aspx?page=23)
Workers Compensation Insurance – 12% ± 4%* (Backup needed with experience modifier)

*Applied to direct labor plus vacation/holiday fringe

Insurance and Bonding:

General Liability Insurance / Bonding: 2.25% ± 0.75% (Backup needed)

Bonding	0.75% ± 0.25%
Insurance	1.50% ± 0.50%

Overhead and Profit: Mark ups for overhead and profit shall be limited to 15% not to exceed overall markup of 25% of total change once all subcontracting tier mark ups have been applied. Contractors may receive a maximum 5% markup on subcontractors total cost. A detailed explanation of overhead and profit mark ups may be found in GP 6.04 Sect. C.

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CMB Change No.: CMB – 0085

Initial Implementing Change Control Procedure No.:1252 – COR - 026

GENERAL

Proposed Change Sponsor: S. Wilson

Received by CMB: 01/09/2013 (Date)

Affected Disciplines: Excavation and Ground Support

Impacts of Change: MOS - Asbestos Pipe at south headwall

Change Order Request (COR 026) Amount Not To Exceed $30,000

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 ☐	2 ☐	3 ☒	4 ☐	5 ☐	6 ☐	7 ☐
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS

Signatures

	Agree with the Change	Disagree with the Change	Date
Senior Program Manager:			1-9-13
Deputy Program Manager:			1/9/2013
PM Project Services:			
PM Project Development/Delivery:			1/9/2013
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			9 JAN 13

Comments

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 026

Estimate Summary

Scope/Background:
This estimate extends force account tags used to track additional work at the Moscone Station South Headwall. This additional work was needed after the discovery of an asbestos pipe within the Moscone Station South Headwall. The FA tags used to track the work are shown below:

- 4260 (08/08/2012)
- 4265 (08/09/2012)
- 4263 (08/10/2012)
- 4266 (08/13/2012)
- 4268 (08/14/2012)
- 4269 (08/15/2012)

A second tier subcontractor (AMG) was utilized in conjunction with Synergy's work forces to remedy the issue.

Stakeholders: SFMTA, BIH, SPM, AMG

Date of occurrence: 08/08/2012 - 08/15/2012

List of attached documents:

- Estimate comparison
- Detailed estimate
- Materials list
- Force account tags
- AMG invoice

Estimate Prepared By: Kenneth Barnhart

Estimate Checked By: Charles Dombrowski

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 026

COR 026

	No.	Activity Name	Days (C)	Days (EE)	Contractor (C)	Engineer's Estimate (EE)	Delta (EE-C)	Summary of Delta
Labor	1	4260 - 8/8 Removal of transite pipe in vault	0.75	0.75	$ 1,670.90	$ 1,409.25	$ (261.65)	All of the differences in labor can be attributed to the use of different labor rates.
	2	4260 - 8/8 Removal of transite pipe in vault (STANDBY)	0.75	0.75	$ -	$ -	$ -	In lieu of an approved labor submittal for Synergy Project Management the SFMTA is using their own built up rates (based on prevailing wage).
	3	4265 - 8/9 Disposal/removal of transite pipe in vault	1	1	$ 1,776.07	$ 1,494.58	$ (281.49)	
	4	4265 - 8/9 Disposal/removal of transite pipe in vault (STANDBY)	0.5	0.5	$ -	$ -	$ -	
	5	4263 - 8/10 Removal of AT&T transite pipe in vault	0.75	0.75	$ 1,435.18	$ 1,208.68	$ (226.50)	
	6	4263 - 8/10 Removal of AT&T transite pipe in vault (STANDBY)	0.38	0.375	$ -	$ -	$ -	
	7	4266 - 8/13 Removal of AT&T transite pipe in vault	0.63	0.625	$ 999.55	$ 840.10	$ (159.45)	
	8	4266 - 8/13 Removal of AT&T transite pipe in vault (STANDBY)	0.63	0.625	$ -	$ -	$ -	
	9	4268 - 8/14 Removal of AT&T transite pipe in vault	0.38	0.375	$ 776.52	$ 654.48	$ (122.04)	
	10	4268 - 8/14 Removal of AT&T transite pipe in vault (STANDBY)	0.38	0.375	$ -	$ -	$ -	
	11	4269 - 8/15 Removal of AT&T transite pipe in vault	0.63	0.625	$ 1,235.27	$ 1,040.66	$ (194.61)	
	12	4269 - 8/15 Removal of AT&T transite pipe in vault (STANDBY)	0.63	0.625	$ -	$ -	$ -	
Equipment	1	4260 - 8/8 Removal of transite pipe in vault	0.75	0.75	$ 2,330.44	$ 1,712.16	$ (618.28)	Incorrect rates are used throughout the contractors cost estimate for Steel Plates, Shoring Jacks, Air Compressor and Backhoe.
	2	4260 - 8/8 Removal of transite pipe in vault (STANDBY)	0.75	0.75	$ 264.76	$ 261.41	$ (3.35)	
	3	4265 - 8/9 Disposal/removal of transite pipe in vault	1	1	$ 2,842.29	$ 2,017.92	$ (824.37)	
	4	4265 - 8/9 Disposal/removal of transite pipe in vault (STANDBY)	0.5	0.5	$ 208.01	$ 203.55	$ (4.46)	
	5	4263 - 8/10 Removal of AT&T transite pipe in vault	0.75	0.75	$ 2,414.12	$ 1,728.19	$ (685.93)	
	6	4263 - 8/10 Removal of AT&T transite pipe in vault (STANDBY)	0.38	0.375	$ 157.74	$ 153.45	$ (4.29)	
	7	4266 - 8/13 Removal of AT&T transite pipe in vault	0.63	0.625	$ 2,007.65	$ 1,380.10	$ (627.55)	
	8	4266 - 8/13 Removal of AT&T transite pipe in vault (STANDBY)	0.63	0.625	$ -	$ 86.32	$ 86.32	
	9	4268 - 8/14 Removal of AT&T transite pipe in vault	0.38	0.375	$ 1,503.24	$ 1,126.71	$ (376.53)	
	10	4268 - 8/14 Removal of AT&T transite pipe in vault (STANDBY)	0.38	0.375	$ -	$ 51.79	$ 51.79	
	11	4269 - 8/15 Removal of AT&T transite pipe in vault	0.63	0.625	$ 2,273.37	$ 1,620.37	$ (653.00)	Synergy included equipment beyond what was approved on FA 4269 by the inspector.
	12	4269 - 8/15 Removal of AT&T transite pipe in vault (STANDBY)	0.63	0.625	$ -	$ 86.32	$ 86.32	
		Material			$ -	$ 27.13	$ 27.13	Synergy neglected to include materials shown on FA 4265
		Markup LM&E - 15%			$ 3,284.27	$ 2,565.48		
		2nd Tier Subs			$ 5,400.00	$ 5,400.00		
		Markup - 5%			$ 270.00	$ 270.00		
		Sub. Bond/Insurance 2.14%			$ 660.18	$ 542.25		
		Prime Markup - 5%			$ 1,575.48	$ 1,294.05		
		Prime Bond/Insurance 1.68%			$ 555.83	$ 456.54		
		Total			$ 33,640.86	$ 27,631.49	$ (6,009.37)	

821 Howard Street 415 701 5262 Phone
San Francisco, Ca 94103 415 701 5222 Fax

central T subway

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Engineer's Estimate

Contract No. 1252 - Tunnel

Change Order Request - 026

Hourly rates

No.	Activity	Days	Operating Engineer (OE) (Lift)*	Laborer (A1)	Laborer (A1)	Laborer (A2)	Laborer (A2)	Labor Resource	Labor Resource	Labor Totals
			$ 87.78	$ 60.14	$ 60.14	$ 60.14	$ 60.14	$ 0.00	$ 0.00	
1	K240 - 8/8 Removal of transite pipe in vault	0.75	1	1	1	1	0.333			$ 1,409.21
2	K285 - 8/8 Removal of transite pipe in vault (STANDBY)	0.75								$ -
3	K355 - 8/9 Disposal/removal of transite pipe in vault	1	1	1	1	0.375				$ 1,450.54
4	K342 - 8/9 Disposal/removal of transite pipe in vault (STANDBY)	0.5								$ -
5	K353 - 8/10 Removal of AT&T transite pipe in vault	0.75	1	1	1	0.667				$ 1,100.44
6	K363 - 8/10 Removal of AT&T transite pipe in vault (STANDBY)	0.375								$ -
7	K364 - 8/13 Removal of AT&T transite pipe in vault	0.625	1	1	1					$ 840.15
8	K366 - 8/13 Removal of AT&T transite pipe in vault (STANDBY)	0.625								$ -
9	K368 - 8/14 Removal of AT&T transite pipe in vault	0.375	1	1	1	1				$ 654.48
10	K369 - 8/14 Removal of AT&T transite pipe in vault (STANDBY)	0.375								$ -
11	K387 - 8/15 Removal of AT&T transite pipe in vault	0.625	1	1	1	0.8				$ 1,040.85
12	K389 - 8/15 Removal of AT&T transite pipe in vault (STANDBY)	0.625								$ -
13	Total									$ 6,647.78

No.	Work Truck	Stake Truck	Air Compressor	Dump Truck - Tippe	Backhoe (with Breaker)	Breaker attachment for Backhoe	Mini Excavator	Excavator	Construction Sign	Changeable Message Board	Arrow Board	Interlocking Water Filled Triton Barrier	Steel Sec Plate (small)	Trench plate	Equipment Totals
	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	
1	1	1			0.5	0.5		0.5	6	1	2	40			$ 1,717.19
2				0.18	0.06	0.133	0.18	0.09							$ 303.41
3	1				0.5	0.5		0.5	8	1	2	40			$ 2,017.32
4				0.12	0.12	0.21		0.18							$ 203.15
5	0.667			0.667	0.5	0.5		0.5	6	1	2	40	0.5	0.5	$ 1,728.23
6			0.38		0.12	0.21		0.18							$ 183.45
7	1							1	6	1	2	40	1	1	$ 1,280.92
8					0.12	0.21									$ 86.72
9	1	1		1				1	6	1	2	40	1	1	$ 1,329.71
10					0.12	0.21									$ 71.70
11	1			0.8				1	6	1	2	40			$ 1,430.27
12					0.12	0.21									$ 86.52
13															$ 20,428.30

Labor	$	6,647.78
Material	$	27.13
Equipment	$	20,428.30
2nd Tier Sub	$	5,400.00
Markup on 2nd Tier Sub - 5%	$	270.00
1st Tier Sub OH&P - 15%	$	1,565.49
1st Tier Sub Bond/Insurance - 2.24%		$542.25
Prime - Markup - 5%	$	1,294.03
Prime - Bond/Insurance - 1.68%		$456.54
Total Amount	$	27,681.49

Assumptions:

- Where a "Large excavator" is being used on the Force Account tags a [illegible] 200 [illegible] is used

Shift Duration: 8hrs

Estimated By: [illegible] Nardian 1/3/2013

Checked By: Charles [illegible] 1/3/2013

Material	Qty.	Unit	Unit Price	Extension
Heavy Duty Disposable Bags	1	ea	$ 25.00	$ 25.00
				$ -
				$ -
				$ -
Sales Tax 8.5%				$ 2.13
Total				**$ 27.13**

2nd Tier Sub Quote **$ 5,400.00**

SFMTA - Third Street Light Rail Phase 2 Central Subway

Daily Force Acccount Field Report

REPORT NO. 4260

PROJECT NO. CN 1252
PROJECT NAME: Central Subway Tunnels
CONTRACTOR: Synergy Project Management, Inc.

DATE PERFORMED 8/8/12
DATE OF REPORT 8/8/12

The following work was performed that is requiring the use of the Labor Force, Materials, Equipment, Special Forces and Services listed herein:

Work Description: Removal of AI-1 structure (delay to transite pipe not disclosed on plans) resulting in loss in production. 9:00 am - 3:30 pm

NAME (FIRST, LAST)		HOURS
Manny	ST	6
	OT	
Sergio	ST	6
	OT	
Luis A.	ST	2
	OT	
Juan M.	ST	6
	OT	
Anthony F	ST	6
	OT	
	ST	
	OT	

Material	Q/U	Comments

Services/Subcontractor	Q/U	Comments

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Backhoe w/Breaker	1	#3	#3
Mini Excavator	1		#6
Large Excavator	1	#3	#3
Dump Truck	1		#6
End Dump			
Foreman's Truck	1	#6	
Tool/Fuel Truck	1	#6	
Sawcutter w/ Truck			
Sawcutter w/ Truck			
Traffic Control @ Intersection 4th & Folsom	1	#6	
Traffic Control @ Street			
Triton Barriers	40	#6	

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Steel Plates			
Shoring			
Generator			
Air Compressor			

Impacted/Delayed Equipment	Q/U	Comments

Does owner want to demobilize equipment? Yes No

Notes:
RE TO APPROVE AND DETERMINE AMOUNT OF COMPENSATION

SFMTA inspector was called before work was commenced? Yes No

Daily Force Account Report was filled out at the end of the day the work was performed? Yes No

SFMTA signature below acknowledges verification of labor, equipment, material and services hours and quantities only. Costs and contract allowability are subject to review and confirmation for compliance with contract terms and scope of work. Any costs determined not to be allowable for payment shall be deducted from the report prior to final execution.

Prepared by [signature] Date 8/8/12

SFMTA Engineer/Inspector [signature] Date 8/9/12

SFMTA - Third Street Light Rail Phase 2 Central Subway

Daily Force Acccount Field Report

PROJECT NO. CN 1252
PROJECT NAME: Central Subway Tunnels
CONTRACTOR: Synergy Project Management, Inc.

REPORT NO. 4265
DATE PERFORMED 8/9/12
DATE OF REPORT 8/9/12

The following work was performed this date requiring the use of the Labor Force, Materials, Equipment, Special Forces and Services listed herein:

Work Description: Disposal & removal of transite pipe in existing AJJ duct structure resulting in a loss in production.

NAME (FIRST, LAST)		HOURS
Manny R.	ST	8
	OT	
Sergio H.	ST	8
	OT	
Juan M.	ST	8
	OT	
Anthony J.	ST	3
	OT	
	ST	
	OT	
	ST	
	OT	

Material	Q/U	Comments
Heavy duty disp bags	1	box

Services/Subcontractor	Q/U	Comments

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Backhoe w/Breaker	1	4	4
Mini Excavator			
Large Excavator	1	4	4
Dump Truck	1		3
End Dump			
Foreman's Truck	1	8	
Tool/Fuel Truck			
Sawcutter w/ Truck			
Sawcutter w/ Truck			
Traffic Control @ Intersection 4th & Folsom	1	8	
Traffic Control @ Street			
Triton Barriers	40	8	

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Steel Plates			
Shoring			
Generator			
Air Compressor			

Impacted/Delayed Equipment	Q/U	Comments

Does owner want to demobilize equipment? Yes No

Notes:
RE TO APPROVE AND DETERMINE AMOUNT OF COMPENSATION

SFMTA Inspector was called before work was commenced? Yes No

Daily Force Account Report was filled out with the end of the day the work was performed? Yes No

SFMTA signature below acknowledges verification of labor, equipment, materials, and services/subcontractor hours and quantities only. Costs and contract applicability are subject to review and confirmation for compliance with contract terms and scope of work. Any costs determined not to be allowable for payment shall be deducted from the next pay to final quantities.

Prepared by — Date 8/9/12

SFMTA Engineer/Inspector — Date 8/9/12

SFMTA - Third Street Light Rail Phase 2 Central Subway

Daily Force Account Field Report

PROJECT NO. CN 1252
PROJECT NAME: Central Subway Tunnels
CONTRACTOR: Synergy Project Management, Inc.

REPORT NO. 4263
DATE PERFORMED 8/10/12
DATE OF REPORT 8/10/12

The following work was performed that is requiring the use of the Labor Forces, Materials, Equipment, Special Tasks and Services listed herein:

Work Description: Removal of transite pipe in existing 16" duct structure resulting in loss of production.

NAME (FIRST, LAST)		HOURS
Manny L.	ST	6
	OT	
Sergio H.	ST	6
	OT	
Juan M.	ST	6
	OT	
Anthony Fuller	ST	4
	OT	
	ST	
	OT	
	ST	
	OT	

Material	Q/U	Comments

Services/Subcontractor	Q/U	Comments

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Backhoe w/Breaker	1	3	3
Mini Excavator			
Large Excavator	1	3	3
Dump Truck	1	4	
End Dump			
Foreman's Truck	1	4	
Tool/Fuel Truck			
Sawcutter w/ Truck			
Sawcutter w/ Truck			
Traffic Control @ Intersection 4th & Folsom	1	6	
Traffic Control @ Street			
Triton Barriers	40	6	

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Steel Plates	1	3	
Shoring	1	3	
Generator			
Air Compressor	1		6

Impacted/Delayed Equipment	Q/U	Comments

Does owner want to demobilize equipment? Yes No

Notes: APPROVAL AND AMOUNT OF TIME COMPENSATION TO BE DETERMINED BY RE PM

SFMTA Inspector was called before work was commenced? Yes No

Daily Force Account Report was filled out ath the end of the day the work was performed? Yes No

SFMTA signature below acknowledges verification of labor, equipment, material, and services/subcontractor hours and quantities only. Costs and contract applicability are subject to review and confirmation for compliance with contract terms and scope of work. Any costs determined not to be allowable for payment shall be deducted from the report prior to final certification.

Prepared by — Date 8/10/12

SFMTA Engineer/Inspector — Date 8/13/12

SFMTA - Third Street Light Rail Phase 2 Central Subway

Daily Force Acccount Field Report

PROJECT NO. CN 1252
PROJECT NAME: Central Subway Tunnels
CONTRACTOR: Synergy Project Management, Inc.

REPORT NO. 4266
DATE PERFORMED 8/13/12
DATE OF REPORT 8/13/12

The following work was performed this day requiring the use of the Labor Force, Materials, Equipment, Special Forces and Services listed herein:

Work Description: Remove transite pipe in the ATT duct structure @ 4th & Folsom N Moscone S. head wall resulting in a delay of production.

NAME (FIRST, LAST)		HOURS
Manny R.	ST	5
	OT	
Sergio A.	ST	5
	OT	
Juan M.	ST	5
	OT	
	ST	
	OT	
	ST	
	OT	
	ST	
	OT	

Material	Q/U	Comments

Services/Subcontractor	Q/U	Comments

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Backhoe w/Breaker	1		5
Mini Excavator			
Large Excavator	1	5	
Dump Truck			
End Dump			
Foreman's Truck	1	5	
Tool/Fuel Truck			
Sawcutter w/ Truck			
Sawcutter w/ Truck			
Traffic Control @ Intersection 4th & Folsom	1	5	
Traffic Control @ Street			
Triton Barriers	40	5	

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Steel Plates	1	5	
Shoring	1	5	
Generator			
Air Compressor			

Impacted/Delayed Equipment	Q/U	Comments

Does owner want to demobilize equipment? Yes No

Notes: APPROVAL AND DETERMINATION OF AMOUNT OF TIME COMPENSATION BY RE [initials]

SFMTA Inspector was called before work was commenced? Yes No

Daily Force Account Report was filled out at the end of the day the work was performed? Yes No

SFMTA signature below acknowledges verification of labor, equipment, material, and service/subcontractor hours and quantities only. Costs and contract allowability are subject to review and confirmation for compliance with contract terms and scope of work. Any costs determined not to be allowable for payment shall be deducted from the report prior to final resolution.

[signature] 8/13/12
Prepared by Date

[signature] 8/13/12
SFMTA Engineer/Inspector Date

SFMTA - Third Street Light Rail Phase 2 Central Subway

Daily Force Acccount Field Report

PROJECT NO. CN 1252
PROJECT NAME: Central Subway Tunnels
CONTRACTOR: Synergy Project Management, Inc.

REPORT NO. 4268
DATE PERFORMED 8/14/12
DATE OF REPORT 8/14/12

The following work was performed the date requiring the use of the Labor Force, Materials, Equipment, Special Forces and Services listed herein:

Work Description: Removal of transite pipe in AT duct structure not shown on the drawings resulting in a loss of production @ 4th & Folsom

NAME (FIRST, LAST)		HOURS
Manny R.	ST	3
	OT	
Sergio H.	ST	3
	OT	
Juan M.	ST	3
	OT	
Anthony F.	ST	3
	OT	
	ST	
	OT	
	ST	
	OT	

Material	Q/U	Comments

Services/Subcontractor	Q/U	Comments

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
ackhoe w/Breaker	1		3
Mini Excavator			
Large Excavator	1	3	
Dump Truck	1	3	
End Dump			
Foreman's Truck	1	3	
Tool/Fuel Truck	1	3	
Sawcutter w/ Truck			
Sawcutter w/ Truck			
Traffic Control @ Intersection 4th & Folsom	1	3	
Traffic Control @ Street			
Triton Barriers	40	3	

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Steel Plates	1	3	
Shoring	1	3	
Generator			
Air Compressor			

Impacted/Delayed Equipment	Q/U	Comments

Does owner want to demobilize equipment? Yes No

Notes:

NEED RE APPROVAL [initials]

SFMTA inspector was called before work was commenced? (Yes) No

Daily Force Account Report was filled out at the end of the day the work was performed? (Yes) No

SFMTA signature below acknowledges verification of labor, equipment, materials, and services/subcontractor hours and quantities only. Costs and contract applicability are subject to review and confirmation for compliance with contract terms and scope of work. Any costs determined not to be allowable for payment shall be deducted from the next estimate to final resolution.

[signature] 8/14/12
Prepared by Date

[signature] 8/14/12
SFMTA Engineer/Inspector Date

SFMTA - Third Street Light Rail Phase 2 Central Subway

Daily Force Acccount Field Report

PROJECT NO. CN 1252
PROJECT NAME: Central Subway Tunnels
CONTRACTOR: Synergy Project Management, Inc.

REPORT NO. 4269
DATE PERFORMED 8/15/12
DATE OF REPORT 8/15/12

The following work was performed this date requiring the use of the Labor Force, Materials, Equipment, Special Forces and Services listed herein:

Work Description: Removal & transite pipe in AC & I duct structure not shown on plans resulting in loss of production on 4th & Folsom.

NAME (FIRST, LAST)		HOURS
N Lanny, R.	ST	5
	OT	
Sergio H	ST	5
	OT	
Juan M.	ST	5
	OT	
Anthony J	ST	4
	OT	
	ST	
	OT	
	ST	
	OT	

Material	Q/U	Comments

Services/Subcontractor	Q/U	Comments

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Jackhoe w/Breaker	1		5
Mini Excavator			
Large Excavator	1	5	
Dump Truck	1	4	
End Dump			
Foreman's Truck	1	5	
Tool/Fuel Truck			
Sawcutter w/ Truck			
Sawcutter w/ Truck			
Traffic Control @ Intersection 4th & Folsom	1	5	
Traffic Control @ Street			
Triton Barriers	40	5	

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Steel Plates	~~1~~	~~5~~	
Shoring	~~1~~	~~5~~	NO
Generator	USED TO SHORE VAULT AT STREET > CONTRA		
Air Compressor		RH	

Impacted/Delayed Equipment	Q/U	Comments

Does owner want to demobilize equipment? Yes No

Notes:
NEED APPROVAL. AMOUNT OF TIME/EQUIPMENT COMPENSATION TO BE DETERMINED BY RE RH

SFMTA Inspector was called before work was commenced? Yes No

Daily Force Account Report was filled out at the end of the day the work was performed? Yes No

SFMTA signature below acknowledges verification of labor, equipment, material, and service/subcontractor hours and quantities only. Costs and contract allowability are subject to review and confirmation for compliance with contract terms and scope of work. Any costs determined not to be allowable for payment shall be deducted from the invoice prior to final computation.

Prepared by — Date 8/15/12

SFMTA Engineer/Inspector — Date 8/15/12

INVOICE

Asbestos Management Group
of California, Inc.

3438 Helen Street

Oakland, CA 94608

(510) 654-8441
FAX (510) 654-8447

Attn: Accounts Payable
Synergy Project Management, Inc.
30 Grant Avenue Suite 300
San Francisco, CA 94108

DATE	REQUISITION NO.
August 17, 2012	

PROJECT SITE
Along 4th and Folsom Street
San Francisco, CA 94103

PROJECT MANAGER	JOB #	PAYMENT #	CHANGE ORDER #	TERMS
Andres Arce	12-6087	2	0	NET DUE

DESCRIPTION	UNIT PRICE	TOTAL PRICE
Invoice as agreed, project 100% complete for removal and disposal of asbestos containing materials from the above referenced project site.		
Asbestos transite pipe disposal and clean up of 6 yards of waste		
Work performed on 8/10/12		$1,800.00
Asbestos transite pipe disposal and clean up of 6 yards of waste		
Work performed on 8/14/2012-8/15/2012		$3,600.00
Steel pipe disposal and clean up of contaminated pips containing oil.		
1 yard of waste and 1 drum containing oil		$2,400.00
Total Work Completed to Date:		$7,800.00
TOTAL AMOUNT NOW DUE AND PAYABLE		$7,800.00

Thank You For Your Patronage

ORIGINAL

$5400 for
COR #26

central T subway

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CMB Change No.: CMB – 0088

Initial Implementing Change Control Procedure No.:1252 – COR - 006

GENERAL

Proposed Change Sponsor: S. Wilson Received by CMB: 01/09/2013 (Date)

Affected Disciplines: Utilities

Impacts of Change: PG&E live electrical delays

Change Order Request (COR 006) Amount Not To Exceed $7,600

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 ☐	2 ☐	3 ☒	4 ☐	5 ☐	6 ☐	7 ☐
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS

Signatures

	Agree with the Change	Disagree with the Change	Date
Senior Program Manager:			1-9-13
Deputy Program Manager:			1/9/2013
PM Project Services:			
PM Project Development/Delivery:			1/9/2013
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			9JAN13

Comments

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 006

Estimate Summary

Scope/Background:

This estimate contains the cost impacts due to live PG&E electrical lines discovered in the launch box area. This work was tracked using force account tags as follows:

- WA #10 (05/17/12)
- WA #12 (05/18/12)
- WA #13 (05/22/12)
- WA #15 (05/22/12)
- WA #16 (05/24/12)

Stakeholders: SFMTA, BIHJV, CJA-NCC

Date of occurrence: 5/17/12 - 5/24/12

List of attached documents:

-Comparison
-Detailed Estimate
-Force Account Tags

Estimate Prepared By: KENNETH BARNHART

Estimate Checked By: CHARLES F. DOMBROWSKI

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 006

COR 006

	No.	Activity Name	Days (C)	Days (EE)	Contractor (C)	Engineer's Estimate (EE)	Delta (EE-C)	Summary of Delta
Labor	1	5/17 - WA #10 - Excavation and forming inefficiencies due to utility conflicts.	0.5	0.5	$ 1,922.12	$ 1,708.83	$ (213.29)	Reduction to prevailing wage
	2	5/18 - WA #12 - Excavation and forming inefficiencies due to utility conflicts.	0.375	0.375	$ 1,441.60	$ 1,281.62	$ (159.98)	Reduction to prevailing wage
	3	5/22 - WA #13 - Crew delayed to clear utilities at the south muck pit guide wall	0.125	0.125	$ 563.16	$ 494.94	$ (68.22)	Reduction to prevailing wage
	4	5/22 - WA #15 - Stop excavation and traffic signals out at 4th St and Bryant St.	0.125	0.125	$ 211.47	$ 185.61	$ (25.86)	Reduction to prevailing wage
	5	5/24 - WA #16 - Utility delay at the Launch Box ramp	0.375	0	$ 478.59	$ -	$ -	The engineer's estimate does not include labor cost for this day as the work was deemed to have not merit with respect to extra work.
Equipment	1	5/17 - WA #10 - Excavation and forming inefficiencies due to utility conflicts.	0.5	0.5	$ 973.72	$ 973.72	$ -	
	2	5/18 - WA #12 - Excavation and forming inefficiencies due to utility conflicts.	0.375	0.375	$ 730.29	$ 730.29	$ -	
	3	5/22 - WA #13 - Crew delayed to clear utilities at the south muck pit guide wall	0.125	0.125	$ 243.43	$ 243.43	$ -	
	4	5/22 - WA #15 - Stop excavation and traffic signals out at 4th St and Bryant St.	0.125	0.125	$ 186.80	$ 186.80	$ -	
	5	5/24 - WA #16 - Utility delay at the Launch Box ramp	0.375	0	$ -	$ -	$ -	
		Material				$ -		
		Markup LM&E - 15%			$ 1,012.68	$ 870.79		
		2nd Tier Subs				$ -		
		Markup - 5%			$ -	$ -		
		Sub. Bond/Insurance 0.52%			$ -	$ 34.72		B/I was not included in the contractor's estimate
		Prime Markup - 5%			$ 388.19	$ 335.54		
		Prime Bond/Insurance 1.68%			$ 136.95	$ 118.38		
		Total			$ 8,289.00	$ 7,164.67	$ (1,124.33)	The $6.84 difference between the contractors total to the left and the contractors total in their change order request is due to an incorrect 5% markup on bonding and insurance.

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 006

Hourly rates:

No.	Activity	Days	Pile Driver (PD) (G2) $ 70.68	Operating Engineer (OE) (G3)* $ 67.74	Laborer (G3) $ 50.14	Labor Resource $ 0.00	Labor Resource $ 0.00	Labor Resource $ 0.00	Labor Resource $ 0.00	Labor Totals	PW Loader $ 72.75	325 Excavator $ 114.03	Skytrack Forklift $ 36.60	Equipment $ 0.00	Equipment $ 0.00	Equipment $ 0.00	Equipment $ 0.00	Equipment $ 0.00	Equipment $ 0.00	Equipment Totals
1	5/17 - WA #10 - Excavation and forming inefficiencies due to utility conflicts	0.5	2	2	3					$ 1,799.82	1	1	1							$ 371.72
2	5/18 - WA #12 - Excavation and forming inefficiencies due to utility conflicts	0.475	2	1	3					$ 1,281.82	1	1	1							$ 335.29
4	5/22 - WA #13 - Crew delayed to clear utilities at the south muck pit guide wall	0.125	1	1	3					$ 454.94	1	1	1							$ 147.73
4	5/22 - WA #15 - Stop excavation and traffic signals out at 4th St and Bryant St	0.125		2	1					$ 186.61	1	1								$ 185.60
	Total									$ 3,671.01										$ 1,116.24

Labor	$	3,671.01
Material	$	-
Equipment	$	1,116.24
2nd Tier Sub	$	-
Markup on 2nd Tier Sub - 5%	$	-
1st Tier Sub OH&P - 15%	$	870.79
1st Tier Sub Bond/Insurance - 0.52%		$74.72
Prime - Markup - 5%	$	335.14
Prime - Bond/Insurance - 1.48%		$110.18
Total Amount	$	7,164.87

Assumptions:

Shift Duration: 8hrs

Estimated By: Kenneth Barnhart 1/9/2013

Checked By: Charles E Dombrowski

13.1 PCO #09
#989809

WORK AUTHORIZATION # 10

CONDON-JOHNSON & ASSOCIATES, INC.
CONTRACTORS AND ENGINEERS

NICHOLSON

Condon-Johnson & Associates, Inc. - Nicholson Construction Company Joint Venture
(CJA-NCC JV)

DATE: 5-17-12

FROM: 11:00 to 15:30

PROJECT NAME & No.: Third Street Light Rail Program Phase 2-Central Subway Tunneling

SHEET NO. 1 OF 1

WORK PERFORMED BY: CJA/NCC JV FOR: Barnard Impregilo Healy JV

DESCRIPTION OF WORK: WEST CONDE WALL - SOUTH WALL - SOUTH MUCK PIT WALL EXCAVATION & FORMING INEFFICIENCIES DUE TO UTILITY CONFLICTS,

LABOR

NAME		TRADE	ACTUAL HOURS STRAIGHT TIME	PREMIUM TIME (1 1/2-TIME)	PREMIUM TIME (2.0-TIME)
[illegible]	M	PD	4		
PAULE	M	PD	4		
ERBLO	R	OPT	4		
PHAM	H	OPT	4		
GARCIA	L	LAB	4		
GUZMAN	A		4		
SCHULTE	R		4		

MATERIAL

DESCRIPTION	QUANTITY

EQUIPMENT & TOOLS

EQUIP #	DESCRIPTION	HOURS
7014	966 LOADER	4
7063	325 EXCAVATOR	4
7085	14000 LB SKYTRACK	4

EQUIP #	DESCRIPTION	HOURS

REMARKS:

CONTRACTOR: Barnard Impregilo Healy JV BY:

ARCHITECT / OWNER: SFMTA BY:

SUBCONTRACTOR: CJA/NCC Joint Venture BY:

W.A. NOT SIGNED BECAUSE:
- ☐ UNABLE TO CONTACT REPRESENTATIVE
- ☐ AUTHORIZED BY PHONE
- ☐ FORM ISSUED FOR RECORD PURPOSES ONLY

Bill #: EWO010 Job Code: 21134

West guide wall- South wall- North muck pit wall. Excavation and forming inefficiencies due to utility conflicts. Central Subway - PH 2

Time and Material Billing Report

Charges for Cost Code: 989809 **UTILITY DELAY @ LB RAMP** **LS**

Date: 05/17/2012 Foreman: BORUP, JH

Production Quantities - 0.000

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	T&M Rates	Markup	Value
BARRAGAN,M	BARRAGAN, Miguel	052	4	0	0	82.15 / 108.37 / 134.58	15.00	377.89
EBALO, RR	EBALO, Rustom R	0B3	4	0	0	75.04 / 98.38 / 121.73	15.00	345.18
GARCIA, L	GARCIA, Lazaro	011	4	0	0	56.78 / 76.23 / 95.68	15.00	261.19
GUZMAN, ANT	GUZMAN, Antonio	011	4	0	0	65.35 / 87.72 / 110.09	15.00	300.61
PHAM, HC	PHAM, Hieu C	0A3	4	0	0	71.08 / 93.62 / 116.16	15.00	326.97
PRICE, G	PRICE, II, Gerard J	051	4	0	0	77.38 / 101.21 / 125.04	15.00	355.95
SCHULTE,RD	SCHULTE, Robert D	013	4	0	0	52.75 / 70.18 / 87.62	15.00	242.65
7044	7044 - Cat 936 Loader		4	0	0	72.79 / 0 / 0	15.00	334.83
7063	7063 - CAT 325BL Excavat		4	0	0	114.01 / 0 / 0	15.00	524.45
7085	7085 - Skytrak 10042 Forklif		4	0	0	56.63 / 0 / 0	15.00	260.50

Totals for: 05/17/2012 **Labor Totals: Hours - 28/0/0 >> 28** Value - 2,210.44

Equip Totals: Hours - 12/0/0 >> 12 Value - 1,119.78

Unit Value for Today: $ 0.00 per LS (0 LS) Total Value: 3,330.22

		Unit Value (per LS)	Total Value
Totals in the Date Range for Cost Code 989809	**Labor Value:**	0.000	2,210.44
	Equipment Value:	0.000	1,119.78
	Material Value:	0.000	0.00
Total Production: 0	**Subcontract Value:**	0.000	0.00
	Supply Value:	0.000	0.00
	Misc 1:	0.000	0.00
	Misc 2:	0.000	0.00
	Misc 3:	0.000	0.00
	Total Value:	0.000	3,330.22

Totals by individual items

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	Value
Employees:						
BARRAGAN,M	BARRAGAN, Miguel	052	4	0	0	377.89
EBALO, RR	EBALO, Rustom R	0B3	4	0	0	345.18
GARCIA, L	GARCIA, Lazaro	011	4	0	0	261.19
GUZMAN, ANT	GUZMAN, Antonio	011	4	0	0	300.61
PHAM, HC	PHAM, Hieu C	0A3	4	0	0	326.97
PRICE, G	PRICE, II, Gerard J	051	4	0	0	355.95
SCHULTE,RD	SCHULTE, Robert D	013	4	0	0	242.65
	Totals:		28	0	0	2,210.44
Equipment:						
7044	7044 - Cat 936 Loader		4	0	0	334.83
7063	7063 - CAT 325BL Excavator		4	0	0	524.45
7085	7085 - Skytrak 10042 Forklift		4	0	0	260.50
	Totals:		12	0	0	1,119.78

x_____ Date: _____

13.1 PCO #89
#989809

WORK AUTHORIZATION # 12

CONDON-JOHNSON & ASSOCIATES, INC. CONTRACTORS AND ENGINEERS

NICHOLSON

Condon-Johnson & Associates, Inc. - Nicholson Construction Company Joint Venture (CJA-NCC JV)

DATE: 5-18-12

FROM: 12:30 to 15:30

PROJECT NAME & No.: Third Street Light Rail Program Phase 2-Central Subway Tunneling

SHEET NO. 1 OF 1

WORK PERFORMED BY: CJA/NCC JV FOR: Barnard Impregilo Healy JV

DESCRIPTION OF WORK: WEST GUIDE WALL - SOUTH WALL - NORTH MUCK PIT WALL EXCAVATION & FORMING INEFFICIENCIES DUE TO UTILITY CONFLICTS

LABOR

NAME		TRADE	ACTUAL HOURS STRAIGHT TIME	PREMIUM TIME (1 1/2-TIME)	PREMIUM TIME (2.0-TIME)
FORTENBERRY	M	PD	3		
PRICE	G	P.D	3		
ESPOLO	R	OPT	3		
PHAM	H	OPT	3		
GARCIA	L	LAB	3		
GUTZMAN	A		3		
SCHULTE	R		3		

MATERIAL

DESCRIPTION	QUANTITY

EQUIPMENT & TOOLS

EQUIP #	DESCRIPTION	HOURS
70214	938 LOADER	
70163	325 EXCAVATOR	
70656	10,000 SKYTRACK	

EQUIP #	DESCRIPTION	HOURS

REMARKS:

CONTRACTOR: Barnard Impregilo Healy JV BY:

ARCHITECT / OWNER: SFMTA BY:

SUBCONTRACTOR: CJA/NCC Joint Venture BY:

W.A. NOT SIGNED BECAUSE:

- ☐ UNABLE TO CONTACT REPRESENTATIVE
- ☐ AUTHORIZED BY PHONE
- ☐ FORM ISSUED FOR RECORD PURPOSES ONLY

Bill #: EWO012 Job Code: 21134

West guide wall-South wall-North muck pit wall. Excavation and forming inefficiencies due to utility conflicts. Central Subway - PH 2

Time and Material Billing Report

Charges for Cost Code: 989809 **UTILITY DELAY @ LB RAMP** **LS**

Date: 05/18/2012 Foreman: BORUP, JH
Production Quantities - 0.000

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	T&M Rates	Markup	Value
BARRAGAN,M	BARRAGAN, Miguel	052	3	0	0	82.15 / 108.37 / 134.58	15.00	283.42
EBALO, RR	EBALO, Rustom R	0B3	3	0	0	75.04 / 98.38 / 121.73	15.00	258.89
GARCIA, L	GARCIA, Lazaro	011	3	0	0	56.78 / 76.23 / 95.68	15.00	195.89
GUZMAN, ANT	GUZMAN, Antonio	011	3	0	0	65.35 / 87.72 / 110.09	15.00	225.46
PHAM, HC	PHAM, Hieu C	0A3	3	0	0	71.08 / 93.62 / 116.16	15.00	245.23
PRICE, G	PRICE, II, Gerard J	051	3	0	0	77.38 / 101.21 / 125.04	15.00	266.96
SCHULTE,RD	SCHULTE, Robert D	013	3	0	0	52.75 / 70.18 / 87.62	15.00	181.99
7044	7044 - Cat 936 Loader		3	0	0	72.79 / 0 / 0	15.00	251.13
7063	7063 - CAT 325BL Excavat		3	0	0	114.01 / 0 / 0	15.00	393.33
7085	7085 - Skytrak 10042 Forklif		3	0	0	56.63 / 0 / 0	15.00	195.37

Totals for: 05/18/2012 Labor Totals: Hours - 21/0/0 >> 21 Value - 1,657.84
Equip Totals: Hours - 9/0/0 >> 9 Value - 839.83

Unit Value for Today: $ 0.00 per LS (0 LS) Total Value: 2,497.67

		Unit Value (per LS)	Total Value
Totals In the Date Range for Cost Code 989809	Labor Value:	0.000	1,657.84
	Equipment Value:	0.000	839.83
	Material Value:	0.000	0.00
Total Production: 0	Subcontract Value:	0.000	0.00
	Supply Value:	0.000	0.00
	Misc 1:	0.000	0.00
	Misc 2:	0.000	0.00
	Misc 3:	0.000	0.00
	Total Value:	0.000	2,497.67

Totals by individual items

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	Value
Employees:						
BARRAGAN,M	BARRAGAN, Miguel	052	3	0	0	283.42
EBALO, RR	EBALO, Rustom R	0B3	3	0	0	258.89
GARCIA, L	GARCIA, Lazaro	011	3	0	0	195.89
GUZMAN, ANT	GUZMAN, Antonio	011	3	0	0	225.46
PHAM, HC	PHAM, Hieu C	0A3	3	0	0	245.23
PRICE, G	PRICE, II, Gerard J	051	3	0	0	266.96
SCHULTE,RD	SCHULTE, Robert D	013	3	0	0	181.99
	Totals:		21	0	0	1,657.84
Equipment:						
7044	7044 - Cat 936 Loader		3	0	0	251.13
7063	7063 - CAT 325BL Excavator		3	0	0	393.33
7085	7085 - Skytrak 10042 Forklift		3	0	0	195.37
	Totals:		9	0	0	839.83

x_____ Date: _____

13.1 - PLOG
989809

WORK AUTHORIZATION # 013

CONDON-JOHNSON & ASSOCIATES, INC. CONTRACTORS AND ENGINEERS

NICHOLSON

Condon-Johnson & Associates, Inc. - Nicholson Construction Company Joint Venture (CJA-NCC JV)

DATE: 5-22-

FROM: 07:00 to 03:00

PROJECT NAME & No.: Third Street Light Rail Program Phase 2-Central Subway Tunneling

SHEET NO. 1 OF 1

WORK PERFORMED BY: CJA/NCC JV FOR: Barnard Impregilo Healy JV

DESCRIPTION OF WORK: CREW DELAYED TO CLEAR UTILITIES @ SOUTH MUCK PIT CHUTE WALL

LABOR

NAME		TRADE	ACTUAL HOURS STRAIGHT TIME	PREMIUM TIME (1 1/2-TIME)	PREMIUM TIME (2.0-TIME)
PARDAGAN	M	PD	1		
PRICE	G	PD	1		
EBALO	R	OPT	1		
FLORA	H	OPT	1		
WIEDERHOLT	C	OPT	1		
GARCIA	L	LAB	1		
CHIZMAN	A	LAB	1		
SCHULTE	R	LAB	1		

MATERIAL

DESCRIPTION	QUANTITY

EQUIPMENT & TOOLS

EQUIP #	DESCRIPTION	HOURS
7044	CAT 936 LOADER	1
7063	CAT 325LB EXCA	1
7085	SKYTRACK 10,000LB	1
	FORKLIFT	

EQUIP #	DESCRIPTION	HOURS

REMARKS:

CONTRACTOR: Barnard Impregilo Healy JV BY:

ARCHITECT / OWNER: SFMTA BY:

SUBCONTRACTOR: CJA/NCC Joint Venture BY:

5/23/12

W.A. NOT SIGNED BECAUSE:

- ☐ UNABLE TO CONTACT REPRESENTATIVE
- ☐ AUTHORIZED BY PHONE
- ☐ FORM ISSUED FOR RECORD PURPOSES ONLY

Bill #: EWO013
Crew delayed to clear utilities at the south muck pit guide wall.

Job Code: 21134
Central Subway - PH 2

Time and Material Billing Report

Charges for Cost Code: 989809 **UTILITY DELAY @ LB RAMP** **LS**

Date: 05/22/2012 Foreman: BORUP, JH
Production Quantities - 0.000

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	T&M Rates	Markup	Value
BARRAGAN,M	BARRAGAN, Miguel	052	1	0	0	82.15 / 108.37 / 134.58	15.00	94.47
EBALO, RR	EBALO, Rustom R	0B3	1	0	0	75.04 / 98.38 / 121.73	15.00	86.30
GARCIA, L	GARCIA, Lazaro	011	1	0	0	56.78 / 76.23 / 95.68	15.00	65.30
GUZMAN, ANT	GUZMAN, Antonio	011	1	0	0	65.35 / 87.72 / 110.09	15.00	75.15
PHAM, HC	PHAM, Hieu C	0A3	1	0	0	71.08 / 93.62 / 116.16	15.00	81.74
PRICE, G	PRICE, II, Gerard J	051	1	0	0	77.38 / 101.21 / 125.04	15.00	88.99
SCHULTE,RD	SCHULTE, Robert D	013	1	0	0	52.75 / 70.18 / 87.62	15.00	60.66
WIEDERH, CU	WIEDERHOLT, Curt	0B1	1	0	0	82.63 / 107.69 / 132.75	15.00	95.02
7044	7044 - Cat 936 Loader		1	0	0	72.79 / 0 / 0	15.00	83.71
7063	7063 - CAT 325BL Excavat		1	0	0	114.01 / 0 / 0	15.00	131.11
7085	7085 - Skytrak 10042 Forklif		1	0	0	56.63 / 0 / 0	15.00	65.12

Totals for: 05/22/2012 **Labor Totals: Hours - 8/0/0 >> 8** **Value - 647.63**
Equip Totals: Hours - 3/0/0 >> 3 **Value - 279.94**

Unit Value for Today: $ 0.00 per LS (0 LS) **Total Value: 927.57**

		Unit Value (per LS)	Total Value
Totals in the Date Range for Cost Code 989809	**Labor Value:**	0.000	**647.63**
	Equipment Value:	0.000	**279.94**
	Material Value:	0.000	**0.00**
Total Production: 0	**Subcontract Value:**	0.000	**0.00**
	Supply Value:	0.000	**0.00**
	Misc 1:	0.000	**0.00**
	Misc 2:	0.000	**0.00**
	Misc 3:	0.000	**0.00**
	Total Value:	0.000	927.57

Totals by individual items

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	Value
Employees:						
BARRAGAN,M	BARRAGAN, Miguel	052	1	0	0	94.47
EBALO, RR	EBALO, Rustom R	0B3	1	0	0	86.30
GARCIA, L	GARCIA, Lazaro	011	1	0	0	65.30
GUZMAN, ANT	GUZMAN, Antonio	011	1	0	0	75.15
PHAM, HC	PHAM, Hieu C	0A3	1	0	0	81.74
PRICE, G	PRICE, II, Gerard J	051	1	0	0	88.99
SCHULTE,RD	SCHULTE, Robert D	013	1	0	0	60.66
WIEDERH, CU	WIEDERHOLT, Curt	0B1	1	0	0	95.02
	Totals:		8	0	0	647.63
Equipment:						
7044	7044 - Cat 936 Loader		1	0	0	83.71
7063	7063 - CAT 325BL Excavator		1	0	0	131.11
7085	7085 - Skytrak 10042 Forklift		1	0	0	65.12
	Totals:		3	0	0	279.94

x _____ Date: _____

#13.1 - PCO 009
981807

WORK AUTHORIZATION # 015

DATE: 5-22-12

FROM: 12:30 to 13:30

CONDON-JOHNSON & ASSOCIATES, INC. CONTRACTORS AND ENGINEERS

NICHOLSON

Condon-Johnson & Associates, Inc. - Nicholson Construction Company Joint Venture
(CJA-NCC JV)

PROJECT NAME & No.: Third Street Light Rail Program Phase 2-Central Subway Tunneling

SHEET NO. 1 OF 1

WORK PERFORMED BY: CJA/NCC JV FOR: Barnard Impregilo Healy JV

DESCRIPTION OF WORK STOP EXCAVATION + TRAFFIC SIGNALS OUT @ 4th & Bryant
- NEED TO CONFIRM POWER OUT

LABOR

NAME	TRADE	ACTUAL HOURS STRAIGHT TIME	PREMIUM TIME (1 1/2-TIME)	PREMIUM TIME (2.0-TIME)
PEBALO R	OPT	1		
PHAM H	OPT	1		
GUZMAN A	LAB	1		

MATERIAL

DESCRIPTION	QUANTITY

EQUIPMENT & TOOLS

EQUIP #	DESCRIPTION	HOURS
9044	CAT 938G LOADER	1
9063	325 EXCAVATOR	1

EQUIP #	DESCRIPTION	HOURS

REMARKS:

CONTRACTOR: Barnard Impregilo Healy JV BY:

ARCHITECT / OWNER: SFMTA BY:

SUBCONTRACTOR: CJA/NCC Joint Venture BY: 6/23/12

W.A. NOT SIGNED BECAUSE:

- ☐ UNABLE TO CONTACT REPRESENTATIVE
- ☐ AUTHORIZED BY PHONE
- ☐ FORM ISSUED FOR RECORD PURPOSES ONLY

Bill #: EWO015 Job Code: 21134
Stop excavation and traffic signals out at 4st St and Bryant St. Need to confirm power outage. Central Subway - PH 2

Time and Material Billing Report

Charges for Cost Code: 989809 UTILITY DELAY @ LB RAMP LS

Date: 05/22/2012 Foreman: BORUP, JH
Production Quantities - 0.000

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	T&M Rates	Markup	Value
EBALO, RR	EBALO, Ruslom R	0B3	1	0	0	75.04 / 98.38 / 121.73	15.00	86.30
GUZMAN, ANT	GUZMAN, Antonio	011	1	0	0	65.35 / 87.72 / 110.09	15.00	75.15
PHAM, HC	PHAM, Hieu C	0A3	1	0	0	71.08 / 93.62 / 116.16	15.00	81.74
7044	7044 - Cat 936 Loader		1	0	0	72.79 / 0 / 0	15.00	83.71
7063	7063 - CAT 325BL Excaval		1	0	0	114.01 / 0 / 0	15.00	131.11

Totals for: 05/22/2012 Labor Totals: Hours - 3/0/0 >> 3 Value - 243.19
Equip Totals: Hours - 2/0/0 >> 2 Value - 214.82

Unit Value for Today: $ 0.00 per LS (0 LS) Total Value: 458.01

		Unit Value (per LS)	Total Value
Totals In the Date Range for Cost Code 989809	Labor Value:	0.000	243.19
	Equipment Value:	0.000	214.82
	Material Value:	0.000	0.00
Total Production: 0	Subcontract Value:	0.000	0.00
	Supply Value:	0.000	0.00
	Misc 1:	0.000	0.00
	Misc 2:	0.000	0.00
	Misc 3:	0.000	0.00
	Total Value:	0.000	458.01

Totals by individual items

Code	Description	Class	Reg. Hrs	Rate 2 Hrs	Rate 3 Hrs	Value
Employees:						
EBALO, RR	EBALO, Ruslom R	0B3	1	0	0	86.30
GUZMAN, ANT	GUZMAN, Antonio	011	1	0	0	75.15
PHAM, HC	PHAM, Hieu C	0A3	1	0	0	81.74
	Totals:		3	0	0	243.19
Equipment:						
7044	7044 - Cat 936 Loader		1	0	0	83.71
7063	7063 - CAT 325BL Excavator		1	0	0	131.11
	Totals:		2	0	0	214.82

x _____ Date. _____

central T subway

Connecting people. Connecting communities.

CMB Change No.: CMB – 0089

Initial Implementing Change Control Procedure No.:1252 – COR - 027

GENERAL

Proposed Change Sponsor: S. Wilson

Received by CMB: 01/09/2013 (Date)

Affected Disciplines: Excavation and Ground Support

Impacts of Change: MOS Oil filled Pipe at south headwall

Change Order Request (COR 027) Amount Not To Exceed $8,600

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 ☐	2 ☐	3 ☒	4 ☐	5 ☐	6 ☐	7 ☐
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS

	Signatures Agree with the Change	Disagree with the Change	Date
Senior Program Manager:			1-9-13
Deputy Program Manager:			1/9/2013
PM Project Services:			
PM Project Development/Delivery:			1/9/2013
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			9 JAN 13

Comments

central T subway

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 027

Estimate Summary

Scope/Background:

This COR is related to the demolition and removal of an "oil filled pipe" from the footprint of the South Moscone headwall excavation. A second tier subcontractor was needed to perform this work as hazardous material abatement was part of the scope. The second tier contractor is named the "Asbestos Management Group of California, Inc." (AMG) and an invoice for the performed work is included in the COR package and attached to this Engineer's Estimate.

Stakeholders: SFMTA, BIH, SPM, AMG

Date of occurrence: 08/17/12

List of attached documents:

-Comparison sheet
-Detailed Estimate
-Material list and pricing
-FA# 4272
-AMG invoice

Estimate Prepared By: Kenneth Barnhart

Estimate Checked By: Charles Dombrowski

central T subway

Connecting people. Connecting communities.

Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 027

COR 027

	No.	Activity Name	Days (C)	Days (EE)	Contractor (C)	Engineer's Estimate (EE)	Delta (EE-C)	Summary of Delta	Negotiation Position
Labor	1	Removal of oil-filled pipe FA#4272	0.875	0.875	$ 1,811.88	$ 1,527.12	$ (284.76)	The labor rates were adjusted to align with the SFMTA built up labor rates (based on prevailing wage rates) in lieu of an approved labor submittal.	
Equipment	1	Removal of oil-filled pipe FA#4272	.875	0.875	$ 3,379.72	$ 2,698.43	$ (681.29)	Revised equipment rates are used in the engineer's estimate that were not included in the contractors cost estimate.	
		Material			$ -	$ -	$ -		
		Markup LM&E - 15%			$ 778.74	$ 633.83			
		2nd Tier Subs			$ 2,400.00	$ 2,400.00			
		Markup - 5%			$ 120.00	$ 120.00			
		Sub. Bond/Insurance 2.14%			$ 181.69	$ 157.92			
		Prime Markup - 5%			$ 433.60	$ 376.87			
		Prime Bond/Insurance 1.68%			$ 152.97	$ 132.96			
		Total			$ 9,258.61	$ 8,047.12	$ (1,211.49)		

Not to Exceed $ 8,600

Not to exceed value includes $552.88 to reconcile approved labor rates if they exceed engineer's estimate rates, as well as equipment used but not included in the engineer's estimate.

central T subway

Connecting people. Connecting communities.

Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 027

Hourly rates:			$ 50.14	$ 67.74	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00		$ 33.12	$ 66.43	$ 142.53	$ 7.29	$ 5.92	$ 1.62	$ 3.20	$ 4.61	$ 0.48	
No.	Activity	Days	Laborer (G1)	Operating Engineer (OE) (G3)	Labor Resource	Labor Resource	Labor Resource	Labor Resource	Labor Resource	Labor totals	Work Truck	Dump truck - 3-axle	Excavator (Hitachi 200	Construction Signs	Changeable Message Boards	Interlocking Water Filled Triton Barrier	Arrow Board	Total per Plate (small)	Total per trench shore	Equipment Totals
1	Removal of oil filled pipe FAM272	0.875	3	1						$ 1,527.12	2	3	1	2	2	40	2	1	1	$ 2,698.43
13	Total									$ 1,527.12										$ 2,698.43

Labor	$	1,527.12
Material	$	-
Equipment	$	2,698.43
2nd Tier Sub	$	2,400.00
Markup on 2nd Tier Sub - 5%	$	120.00
1st Tier Sub OH&P - 15%	$	633.83
1st Tier Sub Bond/Insurance - 2.14%	$	157.92
Prime - Markup - 5%	$	376.87
Prime - Bond/Insurance - 1.68%	$	132.96
Total Amount	$	8,047.12

Assumptions:

- Traffic control at intersection consists of 6 construction signs (price above includes 3ea), 2 CMS, and 2 arrow boards.

Shift Duration: 8hrs

Estimated By: Kenneth Barnhart 1/7/2013

Checked By: Charles Dembrowski 1/7/2013

central T subway

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 027

Material	Qty.	Unit	Unit Price	Extension
			$ -	$ -
				$ -
				$ -
				$ -
Sales Tax 8.5%				$ -
Total				**$ -**

2nd Tier Sub Quote **$ 2,400.00**

SFMTA - Third Street Light Rail Phase 2 Central Subway

Daily Force Account Field Report

PROJECT NO.: CN 1252
PROJECT NAME: Central Subway Tunnels
CONTRACTOR: Synergy Project Management, Inc.

REPORT NO.: 4272
DATE PERFORMED: 8/17/12
DATE OF REPORT: 8/17/12

The following ... [illegible]

Work Description: Removal of [illegible] pipe not shown on contract drawings @ 4th & Folsom. (S. Moscone Headwall)

NAME (FIRST, LAST)		HOURS
Manny R.	ST	7
	OT	
Sergio H	ST	7
	OT	
Juan M	ST	7
	OT	
Anthony J	ST	7
	OT	
	ST	
	OT	
	ST	
	OT	

Material	Q/U	Comments

Services/Subcontractor	Q/U	Comments
AMG	1	7 hours

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Backhoe w/Breaker			
Mini Excavator			
Large Excavator	1	7	
Dump Truck	1	7	
Frd Pump			
Foreman's Truck	1	7	
Too/Fuel Truck	1	7	
Sawcutter w/ Truck			
Sawcutter w/ Truck			
Traffic Control @ Intersection 4th & Folsom	1	7	
Traffic Control @ Street			
Triton Barriers	40	7	

EQUIPMENT DESCRIPTION	Quantity	Active	Standby
Steel Plates	1	7	
Shoring	1	7	
Generator			
Air Compressor			

Impacted/Delayed Equipment	Q/U	Comments

Does owner want to demobilize equipment? Yes No

Notes:

SFMTA inspector was called before work was commenced? (Yes) No
Daily Force Account Hours were submitted at the end of the day the work was performed? (Yes) No
SFMTA signature below acknowledges verification of labor, equipment, material and services/subcontractor hours and quantities only. Costs and contract entitlement are subject to review ... [illegible] ... any costs determined not to be allowable for payment shall be deducted ... prior to final resolution.

Shannon Cairo 8/17/12
for Cory Keller
Prepared by — Date

VERIFY TIME ONLY
[signature] 8/20/12
SFMTA Engineer/Inspector — Date

INVOICE

Asbestos Management Group
of California, Inc.

3438 Helen Street

Oakland, CA 94608

(510) 654-8441
FAX (510) 654-8447

Attn: Accounts Payable
Synergy Project Management, Inc.
30 Grant Avenue Suite 300
San Francisco, CA 94108

DATE	REQUISITION NO.
August 17, 2012	
PROJECT SITE	
Along 4th and Folsom Street	
San Francisco, CA 94103	

PROJECT MANAGER	JOB #	PAYMENT #	CHANGE ORDER #	TERMS
Andres Arce	12-6087	2	0	NET DUE

DESCRIPTION	UNIT PRICE	TOTAL PRICE
Invoice as agreed, project 100% complete for removal and disposal of asbestos containing materials from the above referenced project site.		
Asbestos transite pipe disposal and clean up of 6 yards of waste		
Work performed on 8/10/12		$1,800.00
Asbestos transite pipe disposal and clean up of 6 yards of waste		
Work performed on 8/14/2012-8/15/2012		$3,600.00
Steel pipe disposal and clean up of contaminated pips containing oil.		
1 yard of waste and 1 drum containing oil.		$2,400.00
Total Work Completed to Date:		$7,800.00
TOTAL AMOUNT NOW DUE AND PAYABLE		**$7,800.00**

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CMB Change No.: CMB – 0090

Initial Implementing Change Control Procedure No.:1252 – COR - 022

GENERAL

Proposed Change Sponsor: S. Wilson

Received by CMB: 01/09/2013 (Date)

Affected Disciplines: Excavation and Ground Support

Impacts of Change: MOS - Asbestos Pipe at north headwall

Change Order Request (COR 022) Amount Not To Exceed $6,000

Contract(s) Directly Affected by this Proposed Change:

1250	1251	1252	1253	1254	1255	1256
1 ☐	2 ☐	3 ☒	4 ☐	5 ☐	6 ☐	7 ☐
(CP01)	(CP02)	(CP03)	(CP04)	(CP05)	(CP06)	(CP07)

CONFIGURATION MANAGEMENT BOARD APPROVALS

	Signatures Agree with the Change	Disagree with the Change	Date
Senior Program Manager:			1-9-13
Deputy Program Manager:			1/9/2013
PM Project Services:			
PM Project Development/Delivery:			1/9/2013
SFMTA O & M Manager:			
SFMTA Safety and Security			
SFCTA PMO			9 JAN 13

Comments

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 022

Estimate Summary

Scope/Background:

MOS- Removal of Asbestos Pipe at North Headwall. This scope was broken down into two work items as follows:

- 7/10 Delay due to transite pipe discovery
- 7/12 Support asbestos abatement second tier subcontractor

Stakeholders: SFMTA, Synergy, AMG (Asbestos Management Group)

Date of occurrence: 7/10/12- 7/12/12

List of attached documents:

-Estimate Comparison
-Detailed Estimate
-Materials List
-AMG Quote/Invoice
-Photo provided by BIH

Estimate Prepared By: KENNETH BARNHART

Estimate Checked By: CHARLES F. DOMBROWSKI

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 022

COR 022

	No.	Activity Name	Days (C)	Days (EE)	Contractor (C)	Engineer's Estimate (EE)	Delta (EE-C)	Summary of Delta	Negotiation Position
Labor	1	7/10 Delay due to transite pipe		0.5	$ -	$ -	$ -		
	2	7/12 Support 2nd Tier Sub		1	$ 1,126.32	$ 943.02	$ (183.30)	Adjusted labor rates appropriately	
Equipment	1	7/10 Delay due to transite pipe		0.5	$ 895.75	$ 533.04	$ (362.71)	Adjusted equipment rates appropriately.	
	2	7/12 Support 2nd Tier Sub		1	$ 2,056.45	$ 1,331.04	$ (725.41)	Adjusted equipment rates appropriately.	
		Material			$ -	$ -	$ -		
		Markup LM&E - 15%			$ 611.78	$ 421.06			
		2nd Tier Subs			$ 1,800.00	$ 1,800.00			
		Markup - 5%			$ 90.00	$ 90.00			
		Sub. Bond/Insurance 2.14%			$ 140.82	$ 109.53			
		Prime Markup - 5%			$ 336.06	$ 261.38			
		Prime Bond/Insurance 1.68%			$ 118.56	$ 92.22			
		Total			$ 7,175.73	$ 5,581.29	$ (1,594.44)	The delta is created by a difference in labor rates and equipment rates (triton barriers and steel plates).	

Not to Exceed Value $ 6,000

Includes $418.71 to reconcile approved labor rates if they exceed engineer's estimate rates.

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 022

Hourly rates:			$ 67.74	$ 50.14	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00		$ 33.12	$ 66.43	$ 72.16	$ 142.51	$ 3.20	$ 2.43	$ 1.61	$ 4.61	$ 6.92					
No.	Activity	Days	Operating Engineer (OE) (G3)	Laborer (G3)	Labor Resource	Labor Resource	Labor Resource	Labor Resource	Labor Resource	Labor totals	Work Truck	Dump Truck - 3-axle	Backhoe w/ Cam Shell total	Excavator (Hitachi 200)	Arrow Board	Construction Signs	Interlocking Water Filled Triton Barrier	Total per Plate (small)	Changeable Message Boards	Equipment Totals					
1	7/10 Delay due to transite pipe	0.5								$ -		0.16	0.12	0.18	1	3	25	6	1	$ 533.04					
2	7/12 Support 2nd Tier Sub	1	1	1						$ 943.02	1	0.16	0.12	0.18	1	3	25	6	1	$ 1,331.04					
3	Total									$ 943.02										$ 1,864.08					

Labor	$	943.02
Material	$	-
Equipment	$	1,864.08
2nd Tier Sub	$	1,800.00
Markup on 2nd Tier Sub - 5%	$	90.00
1st Tier Sub OH&P - 15%	$	421.06
1st Tier Sub Bond/Insurance - 2.14%		$109.53
Prime - Markup - 5%	$	201.38
Prime - Bond/Insurance - 1.68%		$92.22
Total Amount	$	5,581.29

Assumptions:

Shift Duration: 8hrs

Estimated By: Kenneth Barnhart 1/7/2013

Checked By: Charles F. Dombrowski 1/7/2013

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Engineer's Estimate
Contract No. 1252 - Tunnel
Change Order Request - 022

Material	Qty.	Unit	Unit Price	Extension
			$ -	$ -
				$ -
				$ -
				$ -
Sales Tax 8.5%				$ -
Total				**$ -**

2nd Tier Sub Quote **$ 1,800.00**

Asbestos Management Group of California, Inc.
Asbestos, Lead, Mold Remediation,
and Demolition
586844, A, B, C-2, C-21
ASB (DOSH 271), HAZ

July 11, 2012

Synergy project Management, Inc.
30 Grant Avenue, Suite 300
San Francisco, CA 94108

Re: Transite pipe removal and clean up 4th Street SF. (Between Howard & Folson)

Asbestos Management Group of California, Inc. (AMG) is pleased to provide you with a price quotation for the removal clean up and disposal material located at the above referenced project. Below please find AMG's scope of work, qualifications and pricing for your review.

Scope of Work

The scope of work is as follows: AMG will remove plaster transite pipe, pipe debris and clean up soil on designated area as per RFI # 34

Qualifications

- AMG will utilize HEPA equipment and PPE during to removal.
- Work to be done in 1 phases/mobilizations.
- All debris generated by our work to be properly packaged and disposed of at an approved disposal facility.

Asbestos Management Group of California, Inc.
Asbestos, Lead, Mold Remediation,
and Demolition
586844, A, B, C-2, C-21
ASB (DOSH 271), HAZ

Exclusions

1. Adherence to Specifications, procedures or other requirements submitted to AMG after the execution of this proposal.
2. Any additional work, costs, or expenses due to delays caused by the Client and/ or others which are beyond the control of AMG.
3. Costs for additional and/ or unforeseen work caused by existing floors, walls, slabs, ceilings or other portions of the property not observed prior to the execution of this proposal.
4. Removal of hazardous materials that is non-visible, inaccessible or quantified in this proposal.
5. Clearance Sampling
6. work to be a prevailing wage job.

Pricing

Total price for abatement is: .....$ 1,800.00

If there are any questions or further information required please don't hesitate to contact us. Thank you in advance for your assistance as well as for the opportunity, we look forward to working with you.

Sincerely,

The Asbestos Management Group of California, Inc.

Andres Arce Rubio Estimator

3438 Helen Street / Oakland, California 94608
(510) 654-8441 / (510) 654-8447 (fax)

Response: **Date Transmitted to Contractor:** _____

Prepared by:

Print Name	Signature	Title	Affiliation	Date

Approved by:

Print Name	Signature		Date
		☐ RE ☐ PBT PE	

Response from the City will not change any requirement of the Contract Documents. In the event the Contractor believes that a response to the RFI will result in a change to the requirements of the Contract Documents, the Contractor shall immediately provide written notice to the Engineer stating that the Contractor considers the response to be a change to the Contract Documents. Failure to provide such notice within five (5) working days of the receipt of the response shall waive the Contractor's right to seek additional time and costs under the Contract Modifications section of the General Provisions of this Contract.

Asbestos Management Group of California, Inc.
3438 Helen Street
Oakland, CA 94608

(510) 654-8441
FAX (510) 654-8447

INVOICE
13254

Attn: Accounts Payable
Synergy Project Management, Inc.
30 Grant Avenue Suite 300
San Francisco, CA 94108

DATE	REQUISITION NO.
July 18, 2012	
PROJECT SITE	
Along 4th and Stockton Street	
San Francisco, CA 94103	

PROJECT MANAGER	JOB #	PAYMENT #	CHANGE ORDER #	TERMS
Andres Arce	12-6087	1	0	NET DUE

DESCRIPTION	UNIT PRICE	TOTAL PRICE
Invoice as agreed, project 100% complete for removal and disposal of asbestos		
containing materials from the above referenced project site.		
Clean Up Oil pipe & dispose of 4/55 gallon drum with waste		
Work performed on 6/20/12-6/21/12		$5,400.00
Removal and disposal of transite pipe & debris clean up		
Work performed on 7/12/2012		$1,800.00
Total Work Completed to Date		$7,200.00
TOTAL AMOUNT NOW DUE AND PAYABLE		$7,200.00

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PROPOSED CONTRACT CHANGE

Contract No. 1252 Tunnels Date 01/09/2013

PCC No.+ 1252-10

PCC Title Relocation of TBM Retrieval Shaft

Description of PCC:

Modify Bid Item ST-4 Construction of Base Bid Permanent Retrieval Shaft to relocate the TBM retrieval Shaft to 1731-1741 Powell Street. The scope of this work includes:

- Deletion of the TBM Retrieval Shaft on Columbus Ave,
- Design and Construct an extension of twin bore tunneling from the currently shown end at Sta 81+23 approximately 274 feet to the relocated Retrieval Shaft. Length of extension subject to refinement of Retrieval Shaft location.
- Design and demolish existing building at 1731-1741 Powell Street. Demolition to include entire building; roof trusses and perimeter walls are not to be retained as shown in attached representative Demolition Plans.
- Design and Construct a temporary TBM Retrieval Shaft located within the bounds of 1731-1741 Powell Street property. Retrieval shaft to include temporary shaft cover to be in place when not actively removing TBM equipment.
- Design and Construct a reinforced concrete bulkhead in each tunnel at Property Line, Public ROW side.
- Design and Construct settlement mitigation measures based on existing Contract 1252 criteria. Settlement mitigation to include settlement monitoring plan compliant with existing Contract 1252 scope and function.
- Design and Implement Traffic Control Plans for new work compliant with Contract 1252 Provisions.
- Prepare Pre and Post Construction existing condition survey based on existing Contract 1252 criteria.
- Schedule:
  - Demolition Design Completion February 1, 2013
  - Design Completion February 15, 2013
  - Demolition to commence March 1, 2013.
  - Relocated Retrieval Shaft Construction shall not extend project completion; Tunneling completion shall not extend project completion nor interim milestones by more than five days.
- Initial authorization to initiate design activities in the amount not to exceed $50,000. Payment shall be as provided as Force Account Work as cited in Section 6.05.C Work Performed by Special Forces or Other Special Services.

Supplementary Conditions:

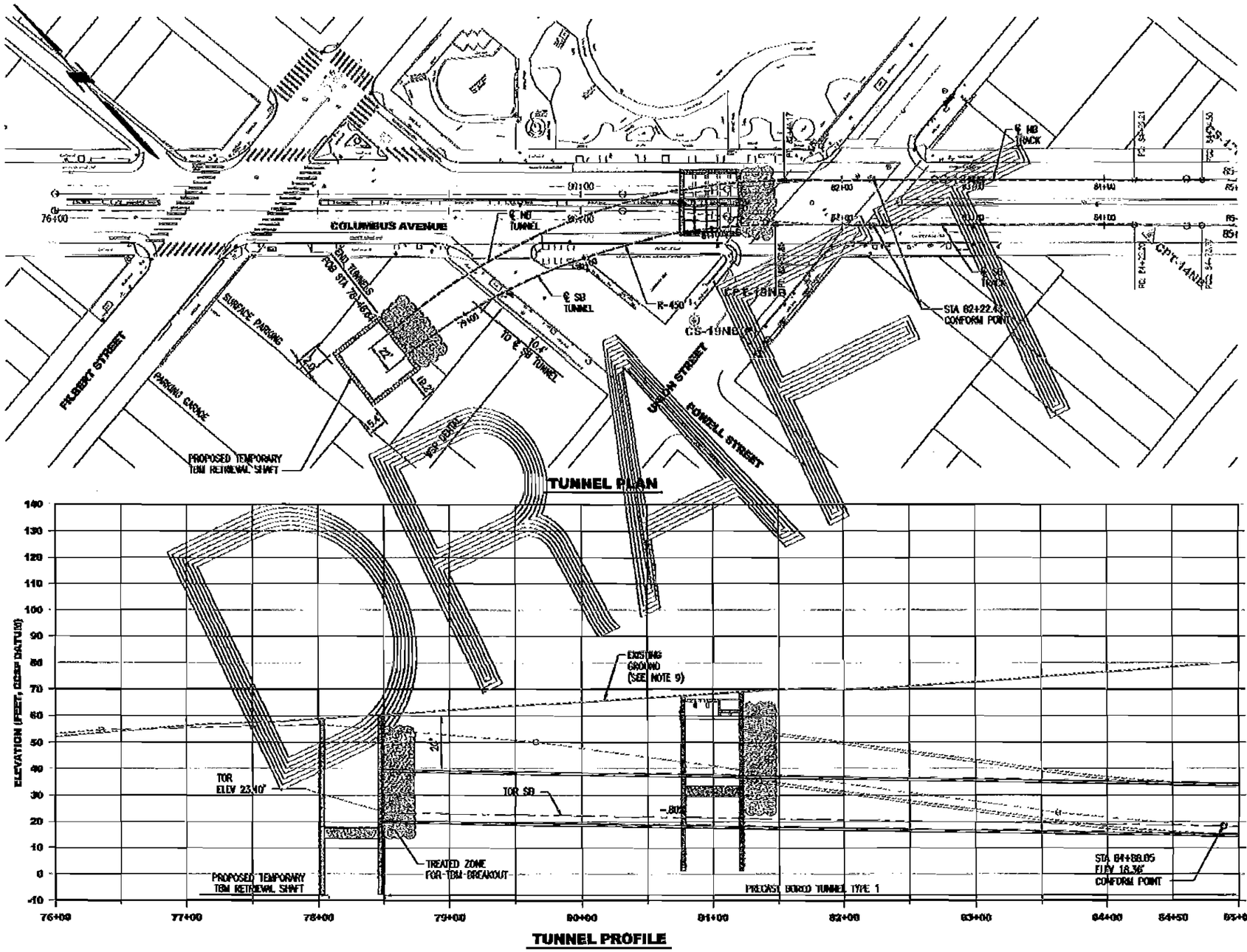
- No street closure of Columbus and Filbert Streets
- Lane and Street Closure of Powell Street, between Columbus and Union Streets, will be allowed as requested and approved by DPT.
- Access through Parking Lot (Lot 32 Assessor's Block 0101) is limited to TBM retrieval operations ONLY. Cost and coordination of access through Parking Lot by BIH.

Spec Ref.	CN 1252 Tunnels
Drawing Nos.	
Attachments	1) Exhibit A - Conceptual Tunnel Plan and Profile 2) Assessor's Block No. 0101 Lot No. 4 1731 Powell St. 3) Geotechnical Investigation 1731-1741 Powell Street, La Corneta Place, December 1, 2008 4) Demolition Drawings D-1B1; D-101; D-102; D-103; D-104; D-105; D-106 The Palace at Washington Sq.

The Contractor's proposal in price and time is required on the following proposed contract change to the subject contract in accordance with the General Provisions Section 88.B within 14 days after receipt of a PCC.

Recommended by: _____ Date 1/9/2013
Albert Hoe/Ross Edwards

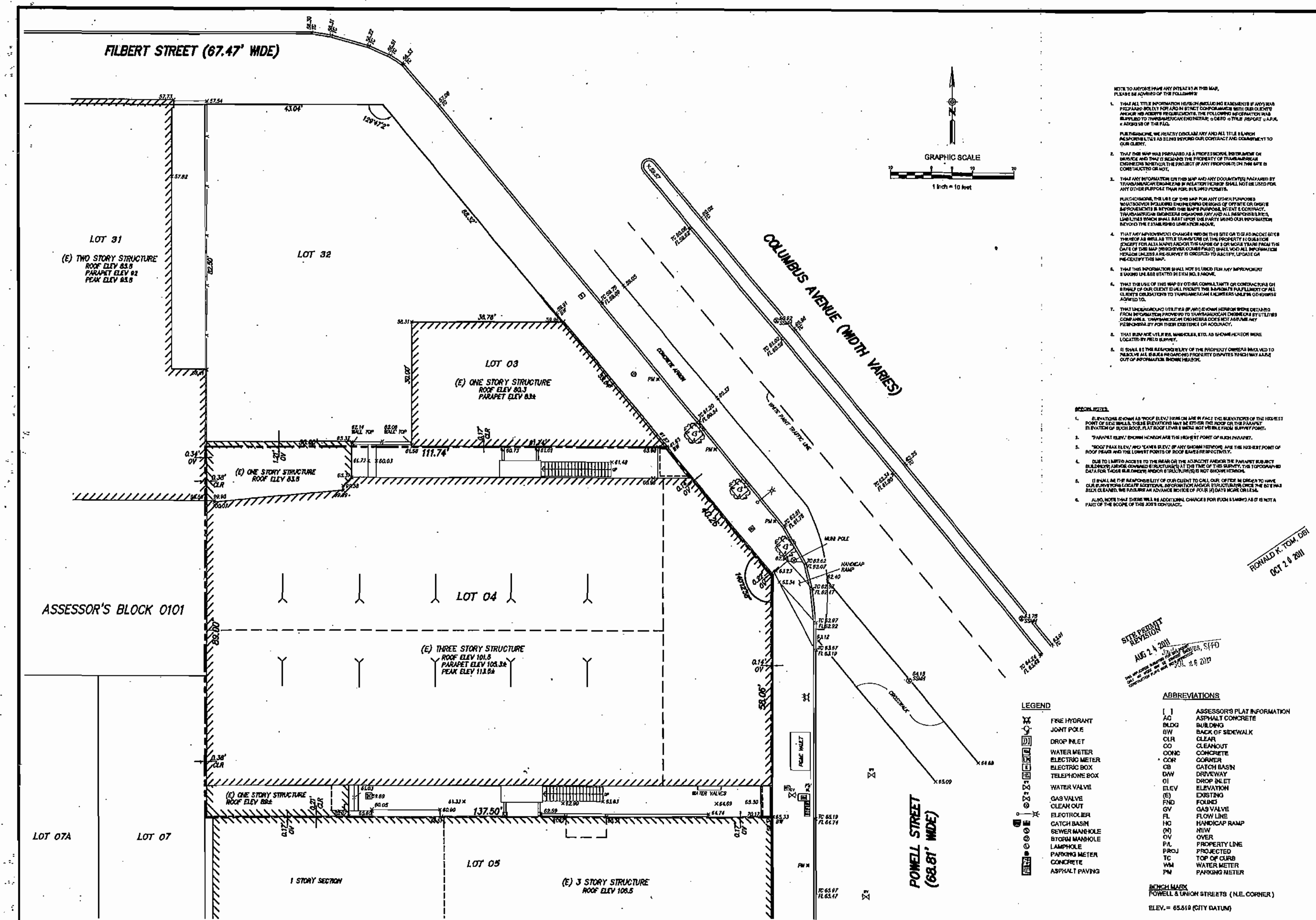
Concur in Principle: _____ Date 1/9/13
Richard Redmond/Mark Benson, Construction Management



NOTES:

1. INDICATED TRACK PLAN AND PROFILE BEYOND SHAFT ARE DEFINED FOR TUNNEL ALIGNMENT PURPOSES ONLY.
2. USE ONLY TRACK STATIONING AND TRACK/TUNNEL OFFSETS FOR TUNNEL SETTING OUT.
3. (NIC) NOT IN CONTRACT
4. FOR UTILITY AND PAVEMENT RENOVATION LIMITS SEE RP AND UT DRAWINGS.
5. DRAWING SHOWS APPROXIMATE STATIONING OF TYPE 1/TYPE 2 TUNNEL LINER INTERFACE.
6. PLOT LINES ARE APPROXIMATE AND ARE NOT TO BE USED FOR RIGHT OF WAY ASSESSMENT.
7. BUILDING LINES DO NOT SHOW ALL FEATURES SUCH AS OVERHANG, ACCESS, ETC.
8. SB PROFILE IS BASED ON THE SB TRACK STATIONING.
9. EXISTING GROUND SHOWN ON THE PROFILE VIEW IS APPROXIMATE AND NOT GENERATED FROM SURVEY DATA.
10. TOP OF RAIL SHOWN FOR RETRIEVAL SHAFT DEVIATION/ALIGNMENT IS THEORETICAL AND USED FOR THE PURPOSES OF LOCATING AND SETTING OUT THE TBM.

EXHIBIT A
12/28/2012



Job No.	6180
Sheet No.	1 OF 1
Date	08/21/09
Survey BP	08/18/09
Design N/A	08/20/09
Drawn BP	08/20/09
Checked BR	08/31/09
Scale	1"=10'

TRANSAMERICAN ENGINEERS

FOX PLAZA
1390 Market St., Suite 201
San Francisco, CA 94102
Phone No. (415) 553-4092
Fax No. (415) 553-4071

ARCHITECTURAL TOPOGRAPHIC SURVEY

ASSESSOR'S BLOCK No. 0101
LOT No. 004
1731 POWELL STREET
CALIFORNIA

FOR REFERENCE ONLY

Approved by: | Chief Engineer License No. | EXP. | Approved by: | Chief Surveyor

Revisions	By
UPDATED 08-10-11	BP

GEOTECHNICAL INVESTIGATION
1731 – 1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

La Corneta Taqueria
San Francisco, California

1 December 2008
Project No. 2766.03

Treadwell Rollo

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TABLE OF CONTENTS (Cont.)

LIST OF FIGURES

APPENDIX A

APPENDIX B

GEOTECHNICAL INVESTIGATION
1731 – 1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation performed by Treadwell & Rollo, Inc. for the proposed La Corneta Palace at 1731-1741 Powell Street in San Francisco (Site Location Map, Figure 1). The project site is at the western corner of the intersection of Powell Street and Columbus Avenue. It is bound by Powell Street to the east, Columbus Avenue to the northeast, a two-story wood framed building and a concrete/asphalt parking lot to the north, a two-story concrete/masonry building to the west, a three stories and a one-story wood frame building to the south. Sidewalk grades vary between Elevation 61 and 62.5 feet[1] along Columbus Avenue and between 62.6 and 65 feet along Powell Street.

In July 2000, we performed a geotechnical investigation at the project site. The proposed project at that time included seismic strengthening and renovation of the existing theatre. However, the strengthening and renovation were not carried out. Instead, the project was scaled down to construct a new basement for storage, measuring about 11 by 12 feet in plan, adjacent to the existing basement near the front of the building.

The project architect is Naylor and Chu, Inc. of San Francisco; and the project structural engineer is Santos Urrutia, Inc.

1.1 Existing Improvements

The site is approximately rectangular in shape with plan dimensions of about 90 by 148 feet and is currently occupied by a 2- to 4-story building constructed in 1907. It was opened in 1909 as the Washington Square Theatre and was extensively remodeled in the late 1930's and reopened as the Palace in 1937. In 1995, the building was completely renovated for use as a movie theater. The renovations included alterations to accommodate a new projection screen, adding a new cast-in-place concrete floor at the second level, and constructing a new five-inch-thick concrete slab-on-grade.

---

[1] Elevations are obtained from plan titled "As-Built Survey at the Pagoda theatre for Lelrum Corporation" prepared by Martin M. Ron Ass dated 23 February 2000 and are referenced to San Francisco City Datum (SFCD).

The existing finished floor elevations at the main theater level, main lobby, and theatre stage, respectively are about Elevation 60.0, 64.5, and 61.8 feet. Two small basement areas are located at the front and rear of the building. The plan dimension for the front basement is approximately 26 by 73 feet with a floor at Elevation 56 feet and the rear basement is approximately 34.5 by 73 feet with a floor at Elevation 51.5 feet. The west basement wall (rear basement) extends 10 feet below the basement slab.

The perimeter walls of the building are steel-framed with brick infill while the basement walls are concrete. Two narrow tunnels or air-ducts extend from the rear basement towards the front of the building; the tunnels do not appear to extend to the front basement. Two-story brick structures were constructed on the northwest and southwest corners of the site. These enclose the stairways that exit to the alleyways. The alleyway on the south side of the building is gently sloping towards west with finished grades varying between Elevation 65 and 60 feet. The alleyway to the north is generally level at approximately Elevation 61 feet.

We have reviewed the following plans for the building:

- portions of the original architectural plans and section, prepared by Mr. A. Mendelman, Architect, not dated
- portions of architectural plans from the 1995 renovation, source and date unknown.

The plans indicate the building is founded on continuous and isolated spread footings. The footings appear to be bottomed at about 7 to 15 feet below the theater level slabs-on-grade. However, the actual elevations of footing cannot be determined from the drawings. The footings are deepest near the rear basement, and step up approaching Powell Street. The slab-on-grade for the rear basement is approximately 10 feet below the theater level slab-on-grade; one drawing indicated the rear wall of the basement is founded 10 feet below the basement slab. Efflorescence on the basement walls suggests the basement floor may be near or below the groundwater table.

On 18 January 2001, we observed the excavation of a basement expansion approximately 11 by 12 feet in plan. The basement expansion was adjacent to the existing front basement, a brick sewer was encountered the base of the excavation. The sewer had been plugged with concrete and appeared to be abandoned. In addition, a six-inch-diameter joint sewer and storm drain pipe (SS/SD pipe) was observed along the north side of the new basement. Where exposed, the top of this pipe varied from about Elevation 56.5 to 55.7 feet on the west and east ends, respectively. An active and an abandoned roof drain are located along the east side of the excavation, adjacent to the existing basement wall. An

abandoned pipe was also observed buried in the subgrade soil adjacent to the roof drain line. Along the south wall of the excavation, a footing for a small structural post was exposed. The post appeared to be founded on a five-inch-thick concrete pad, measuring 3.5 by 4 feet in plan dimensions. The bottom of the pad was at about 22 inches below grade (58.2 feet, SFCD), and appeared to be founded on an older concrete footing about 3 ½ feet square. The footing was bottomed in stiff native soil.

1.2 Proposed Improvements

We understand the proposed improvements include 1) demolishing and replacing most of the existing structural components and facilities (sheetrock wall, furred column and the 2-story brick stairwells) but preserving the building façade and 2) constructing a five-story mixed use building over one level basement. The first floor will be occupied by a restaurant, retail space and residential lobby area. The remaining four levels will contain residential units. The footprint of the basement and first floor is shown on the attached Site Plan, Figure 2. The finished floor for the restaurant, retail and resident entry (Porte Cochere) will be at Elevations 62.3 feet, 64.1 feet and 65.1 feet, respectively. The floor of the below grade garage will be at Elevation 48.3 feet. Site grading will require cuts of approximately 5 feet at the rear of the building and up to 15 feet at the front. The existing alleys will remain and receive minor site grading with finished grade at 62.3 feet. No information regarding the building loads is available at the time of our investigation but we judge the load will be moderate.

In addition, the sidewalk along Columbus Avenue and Powell Street fronting the building will receive new pavement and new curb and gutter. A new PG&E vault will be constructed below sidewalk near the southeast corner of the site; we anticipate the vault will extend 4 to 6 feet below street pavement.

2.0 SCOPE OF SERVICES

In accordance with our proposal dated 5 September 2008, our scope of work included advancing one boring to supplement the previous investigation of subsurface conditions at the site. On the basis of the field investigation and a review of previous geotechnical investigations in the vicinity, we performed engineering analyses to develop recommendations and conclusions regarding:

- seismic hazards, including ground rupture, liquefaction, lateral soil displacement, and differential compaction
- appropriate seismic hazard mitigation measures, if necessary
- appropriate foundation type(s) for the proposed new construction

- design criteria for the recommended foundation type(s)
- estimates of total and differential foundation settlement
- temporary shoring system(s) and underpinning
- construction monitoring
- lateral earth pressures for design of basement walls and shoring systems
- site preparation and grading, including criteria for fill quality and compaction
- corrosion potential of near-surface soil
- 2007 California Building Code (CBC 2007) maximum considered earthquake spectral response acceleration for short periods, S_{MS}, and at one-second period, S_{M1}, adjusted for site class effects
- construction considerations

3.0 FIELD INVESTIGATION

3.1 Previous Investigation

Treadwell & Rollo performed a geotechnical investigation at the site in July 2000. The investigation included advancing two cone penetration tests (CPTs), designated CPT-1 and CPT-2, performing three dynamic penetrometer tests (DPTs), designated DPT-1 through DPT-3, and advancing two hand-augured borings, designated B-1 and B-2, at the locations shown on Figure 2.

3.1.1 Cone Penetration Tests

The CPTs were performed on 29 February 2000 by Gregg In-Situ, Inc. using portable "ram-set" CPT equipment. The ram-set CPT consists of an approximately three-foot-square piece of equipment containing a hydraulic ram. The ram-set CPT is bolted to a concrete slab at the test location; the reaction between the slab and the CPT equipment generates a maximum downward capacity of approximately 12 tons. CPT-1 was performed near the northwest building corner and was advanced to refusal at a depth of 22 feet, corresponding to Elevation 75.5 feet. CPT-2 was performed near the southeast corner of the building and was advanced to refusal at a depth of 16 feet, corresponding to Elevation 86 feet. Direct-push soil samples were collected from CPT-2 for visual classification between depths of 7 and 8 feet.

The CPTs were performed by hydraulically pushing a 1.75-inch-diameter (15 square centimeters), cone-tipped probe into the ground. The cone tip measures tip resistance, and the friction sleeve behind the cone tip measures frictional resistance. Electrical strain gauges within the cone continuously measure soil parameters for the entire depth advanced. Soil data, including tip resistance and frictional resistance, are recorded by a computer while the test is conducted. Accumulated data are processed by computer to provide engineering information such as the types and approximate strength characteristics of the soil encountered. The CPT logs, showing tip resistance and friction ratio by depth, as well as interpreted SPT N-values, soil shear strength parameters and an interpreted soil classification, are presented on Figures B-1 and B-2. The classification chart for the CPT logs is presented on Figure B-3.

3.1.2 Dynamic Penetrometer Tests

On 29 February 2000, Treadwell & Rollo personnel performed dynamic penetrometer tests DPT-1 through DPT-3 at the locations shown on Figure 2. DPT-1 and DPT-2 were advanced to depths of 12 and 16 feet below the top of the concrete sidewalk, respectively; DPT-3 was advanced to a depth of about 1-1/2 feet, where it met refusal due to an obstruction. DPT-1 was advanced adjacent to CPT-1 so that a site-specific correlation between the CPTs and DPTs could be determined. The tests were performed in general accordance with the recommendations of the penetrometer manufacturer, Triggs Technologies, Inc.[2] The penetrometer test consists of driving a 1.4-inch-diameter, cone-tipped probe into the ground with a 35-pound hammer falling 15 inches. The cone tip has a projected area of 10 square centimeters. The cone is advanced using 1.1-inch-diameter steel rods; the rods slip out of the disposable cone tip during extraction. The blows used to drive the probe are recorded in 10-centimeter (4-inch) increments, and can be converted to dynamic tip resistance (q_d) using the "Dutch Formula." These values may be converted to equivalent Standard Penetration Test (SPT) N-values for use in determining liquefaction potential. Logs of the unfactored (raw) penetrometer data are presented on Figures B-4 though B-6.

3.1.3 Hand-Augured Borings

Two hand-augured borings, designated B-1 and B-2, were advanced on 29 February 2000 at the approximate locations shown on Figure 2. The purpose of the borings was to investigate soil conditions beneath the theater-level slab and collect samples for laboratory analysis. The borings met refusal on concrete rubble or other debris at a depth of 1 to 2 feet below the existing slab. At both locations, we encountered about 1/2 to 1-1/2 feet of silty sand fill beneath the existing slab-on-grade.

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[2] Triggs, Fred J., and Simpson, Paul D, *A Portable Dynamic Penetrometer for Geotechnical Investigations*, Dynamic Penetrometer Product Manual.

3.2 Current Investigation

3.2.1 Field Investigation

Prior to performing our field investigation, we obtained the required permit from San Francisco Department of Public Health (SFDPH). To check that the boring location was clear of existing utilities, we contacted Underground Service Alert (USA) and retained a private utility locator.

The approximate boring location is shown on the Site Plan, Figure 2. The boring was drilled inside the existing building. It was drilled on 8 October 2008, by Access Soil Drilling, Inc. of San Mateo, to a depth of approximately 31 feet using a portable Minuteman drill rig equipped with a 4-inch solid stem auger. Our field engineer logged the boring and obtained representative samples of the soil encountered for visual classification and laboratory testing. Log of the boring is presented in Appendix A as Figure A-1. The material encountered was classified according to the soil classification system described on Figure A-2.

Soil samples were obtained using the following split-barrel samplers:

- Sprague and Henwood (S&H) sampler with a 3.0-inch outside diameter and a 2.5-inch inside diameter, with 2.43-inch inside diameter liners
- Standard Penetration Test (SPT) sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter, without liners.

The samplers were driven with a 140-pound, safety or downhole hammer falling about 30 inches. To account for sampler size and hammer energy, the blow counts required to drive the S&H and SPT sampler the final 12 inches of an 18-inch drive were converted to approximate SPT blow counts (N-values) using a conversion factor of 0.6 and 1.0, respectively, and are presented on the boring log.

Upon completion of drilling, the hole was backfilled using cement grout, as required by the SFDPH. The soil cuttings were left on site adjacent to the boring location.

4.0 LABORATORY TESTING

Laboratory testing was performed on selected samples to determine the physical properties of the subsurface soils. We re-examined the soil samples in our office to confirm field classifications. Representative samples were delivered to a laboratory and were tested to measure moisture content,

fines content (percent passing the US No. 200 sieve), Atterberg Limits. The laboratory tests are presented on the boring logs.

One representative soil sample from B-3 at 15 feet was submitted to CERCO Analytical, Inc. for a corrosivity analysis. The corrosivity test results are attached in Appendix C and summarized in Section 7.6.

5.0 SITE AND SUBSURFACE CONDITIONS

The existing building occupies most of the site; the building has about 30 feet of frontage on Columbus Avenue and 50 feet of frontage on Powell Street. The north and south sides of the site are occupied by 7-1/2-foot-wide, concrete-paved alleyways.

The regional geology map (Figure 3) indicates that the northeastern side of the site is underlain by fill. Based on the results of the borings, CPTs and DPTs, we judge the site is blanketed by 4.5 to 10 feet of fill consisting of medium dense sand and stiff clay with varying amounts of silt and the fill thickness increases towards northeast. However, DPT-2 indicates the fill may be up to 15 feet deep at the DPT-2 location. The fill layer encountered in CPT-2 consists of mostly sandy material and appeared to be consistent with Boring B-3. However, CPT-1 encountered clayey material. The upper portions of the fill contain bricks, concrete, and other debris, the log for CPT-2 indicates the upper few feet of fill in this area may contain loose gravel or large voids.

The fill is underlain by medium stiff to very stiff sandy clay and dense to very dense silty sand that extend to the maximum depth explored (31 feet), the soil samples obtained from Boring B-3 indicated the material at depth may be residual soil[3] or completely weathered sandstone. Based on the results of borings we have reviewed at nearby sites and the geology map, weathered sandstone of the Franciscan formation may be present within 40 to 50 feet below ground surface (bgs).

Groundwater was measured in the two CPT locations (T&R, 2000) at a depth of eight feet. This depth corresponds to Elevation 51 and 56.5 feet in CPT-1 and CPT-2, respectively. Boring B-3 (T&R, 2008) encountered groundwater at 54.5 feet which is consistent with previous investigation. The results of the

[3] Residual soil consists of soil that has resulted from weathering and decomposition of underlying bedrock.

groundwater measurements indicate groundwater flows towards northwest. Groundwater levels at the site are expected to fluctuate seasonally in response to rainfall. The groundwater measurements at the CPT locations made during our field investigation were made during the wet winter months and were allowed to stabilize for 1 to 2 hours; we judge the groundwater levels measured are near the high groundwater level at the site.

If a single design groundwater level is desired, a groundwater level of Elevation 56.5 feet should be used.

6.0 SEISMIC CONSIDERATIONS

Regional seismicity and faulting, fault rupture and associated geologic hazards are discussed in this section.

6.1 Regional Seismicity and Faulting

The major active faults in the area are the San Andreas, Hayward, San Gregorio, and Calaveras Faults. These and other faults of the region are shown on Figure 4. For the active faults within 40 kilometers, the distance from the site and estimated mean characteristic Moment magnitude[4] [Working Group on California Earthquake Probabilities (WGCEP) (2003) and Cao et al. (2003)] are summarized in Table 1.

[4] Moment magnitude is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area.

TABLE 1
Regional Faults and Seismicity

Fault Name	Distance (km)	Direction from Site	Mean Characteristic or Maximum Moment Magnitude
San Andreas – 1906 Rupture	12.9	West	7.90
San Andreas – Peninsula	12.9	West	7.15
San Andreas – North Coast South	14	West	7.45
North Hayward	16	East	6.5
Total Hayward	16	East	6.9
Total Hayward-Rodgers Creek	16	East	7.3
South Hayward	18	East	6.7
Northern San Gregorio	18	West	7.2
Total San Gregorio	18	West	7.4
Rodgers Creek	32	North	7.0
Mt Diablo – MTD	34	East	6.7
Total Calaveras	35	East	6.9
Concord/Green Valley	38	East	6.7
Point Reyes	40	West	6.8
Monte Vista-Shannon	43	Southeast	6.8
West Napa	43	Northeast	6.5

Figure 4 also shows the earthquake epicenters for events with magnitude greater than 5.0 from January 1800 through January 1996. Since 1800, four major earthquakes have been recorded on the San Andreas Fault. In 1836 an earthquake with an estimated maximum intensity of VII on the Modified Mercalli (MM) scale (Figure 5) occurred east of Monterey Bay on the San Andreas Fault (Toppozada and Borchardt 1998). The estimated Moment magnitude, M_w, for this earthquake is about 6.25. In 1838, an earthquake occurred with an estimated intensity of about VIII-IX (MM), corresponding to an M_w of about 7.5. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of loss of lives and property damage. This earthquake created a surface rupture along the San Andreas Fault from Shelter Cove to San Juan Bautista approximately 470 kilometers in length. It had a maximum intensity of XI (MM), an M_w of about 7.9, and was felt 560 kilometers away in Oregon, Nevada, and Los Angeles. The most recent earthquake to affect the Bay Area was the Loma Prieta Earthquake of 17 October 1989, in the Santa Cruz Mountains with an M_w of 6.9, approximately 97 km from the site.

In 1868, an earthquake with an estimated maximum intensity of X on the MM scale occurred on the southern segment (between San Leandro and Fremont) of the Hayward Fault. The estimated M_w for the earthquake is 7.0. In 1861, an earthquake of unknown magnitude (probably an M_w of about 6.5) was reported on the Calaveras Fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill earthquake (M_w = 6.2).

In 2002 the Working Group on California Earthquake Probabilities (WGCEP 2003) at the U.S. Geologic Survey (USGS) predicted a 62 percent probability of a magnitude 6.7 or greater earthquake occurring in the San Francisco Bay Area by the year 2031. More specific estimates of the probabilities for different faults in the Bay Area are presented in Table 2.

TABLE 2
WGCEP (2003) Estimates of 30-Year Probability (2002 to 2031) of a Magnitude 6.7 or Greater Earthquake

Fault	Probability (percent)
Hayward-Rodgers Creek	27
San Andreas	21
Calaveras	11
San Gregorio	10
Concord-Green Valley	4
Greenville	3
Mount Diablo	3

6.2 Liquefaction, Lateral Spreading and Differential Compaction

During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the site. Strong shaking during an earthquake can result in ground failure such as that associated with soil liquefaction[5], lateral spreading[6], post-liquefaction settlement[7], and cyclic

[5] Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.

[6] Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. The surficial soil is typically displaced in "blocks" that are transported downslope or in the direction of a free face by earthquake and gravitational forces.

[7] Post-liquefaction settlement is a phenomenon in which a previously liquefied sand layer settles into a denser soil arrangement after dissipation of pore water pressures.

differential compaction[8]. We used the results of the borings and CPTs to evaluate the potential of these phenomena occurring at the project site.

The project site is within an area designated by the California Geologic Survey (CGS) (formerly known as California Division of Mines and Geology) as a zone of potential liquefaction (State of California Seismic Hazard Zones – San Francisco North Quadrangle, 17 November 2000) as shown on Figure 6. Consequently, we performed an analysis of the liquefaction potential at the site.

The liquefaction studies were performed in accordance with the methodology presented in the publication titled Proceeding of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, prepared by the National Center for Earthquake Engineering Research (NCEER, 1997) and recent studies by Seed et al. (2003). Our evaluation was based on a Moment Magnitude, $M_w = 7.9$ earthquake with a peak ground acceleration, $a_{max} = 0.40g$ from the designed mapped values of spectral accelerations.

Based on the site specific information obtained from the boring, CPTs and DPTs, and results of our engineering analyses, we conclude the soil encountered beneath the proposed structure has sufficient strength to resist liquefaction during a major earthquake. Therefore, we judge the risk of other geologic hazards associated with liquefaction, including lateral spreading, to be low.

The fill encountered at the site is generally clayey; however, possible voids or loose materials were encountered above a depth of 3-1/2 feet in CPT-2. Therefore, we conclude some loose sandy or gravelly fill may be present beneath portions of the site. In addition, based on Boring B-3, a medium dense clayey sand layer of approximately six feet thick is present below the existing slab. We anticipate total settlement on the order of 1 to 2 inches of settlement may occur in isolated locations near sidewalk and the alleyways due to cyclic densification during a large earthquake on one of the nearby faults.

[8] Cyclic soil densification is a phenomenon in which non-saturated, cohesionless soil is densified by earthquake vibrations, resulting in ground surface settlement.

7.0 DISCUSSION AND CONCLUSIONS

We conclude that from a geotechnical engineering standpoint the site can be developed as proposed, provided the recommendations presented in this report are incorporated into the project plans and specifications and implemented during construction. The primary geotechnical concerns for the project site include:

- selection of an appropriate foundation system for the support of the planned structure
- presence of groundwater table above basement excavation
- presence of undocumented fill
- maintaining vertical and lateral capacities of existing column footings at the perimeter during basement excavation
- construction related issues include:
  - Depth of excavation for the below grade level and need to maintain lateral support during excavation.
  - Impact of surcharge loads from adjacent structures on temporary shoring and permanent basement walls.
  - Dewatering during basement excavation

These issues and their impact on the design and construction of the planned structure are discussed in the following sections.

7.1 Foundations and Settlement

The primary geotechnical issue is the presence of shallow groundwater. The groundwater will impose hydrostatic uplift on the basement floor and lateral pressure on the basement walls. Groundwater can also be problematic during construction of the basement.

On the basis of our investigation, we conclude the proposed basement walls and columns can be supported on conventional spread footings with slab-on-grade or a mat foundation. However, with a design groundwater level at 8 feet above the proposed basement level, the hydrostatic pressure may exceed the distributed building loads. Therefore, tension elements, such as ground anchors, may be required. A mat foundation of approximately 4 to 5 feet thick should be sufficient to resist hydrostatic

uplift but it may not be practical. We have provided herein recommendations for design of both spread footings and a mat so a cost comparison can be made between the two options.

Either footings or a mat should be bottomed in very stiff to hard sandy clay and/or very dense silty sand. Based on the allowable bearing pressures presented later in this report, we estimate total settlement under moderate building loads will be ½ inch, with differential settlement on the order of ¼ inch or less in 25 feet; for the mat foundation, total settlement of about ¼ inch may occur depending upon applied mat pressure at different locations. We estimate differential settlement of a mat between adjacent columns should be less than ¼ inch.

Furthermore, if seismic building loads result in high uplift forces, tiedowns may be required for the mat foundation.

7.2 Undocumented Fill

Based on our review of the regional geology map, it appeared that approximately half of the site is underlain by fill. The borings, CPTs and DPTs results indicated that the northeastern side of the site may be underlain by up to 15 feet of medium dense clayey sand fill. We understand most of the fill will be removed during excavation for the proposed basement and the foundations will be bottomed in native material. However, the design of the temporary shoring, underpinning piers and basement walls is subject to the thickness of the fill. Due to limited information available at this time to precisely determine the fill thickness across the site, we assume the fill to be 15 feet thick.

7.3 Groundwater

Below grade walls, mat foundation or floor slab will extend about 8 feet below the groundwater level and should be designed to resist lateral and uplift hydrostatic pressures using a design groundwater level at Elevation 56.5 feet. Below grade walls and slabs should be waterproofed.

7.4 Tiedown Anchors

We judge the use of tiedown anchors is the most suitable method to resist temporary or permanent uplift if building loads are insufficient. Tiedown anchors consist of relatively small-diameter, drilled, concrete- or grout-filled shafts with steel bars embedded in the concrete or grout. The tiedown anchors develop their resistance from friction between the sides of the shaft and the surrounding soil.

Because portable drill and CPT rigs were used for site exploration, the depth explored may not be sufficient to develop a profile for high capacity anchors. We judge the tiedown anchors will extend into hard sandy clay and very dense silty sand as a minimum. The lower portion of the tiedown may be embedded in sandstone or claystone of Franciscan bedrock if they extend beyond about Elevation 30 feet. Recommendations for design of tiedown anchors are presented in a subsequent section of this report.

7.5 Construction Considerations

7.5.1 Demolition

We anticipate a significant quantity of crushed concrete and other debris will be generated during demolition of the existing concrete slabs-on-grade and basements. This material should be removed or stockpiled for later use, if approved by the architect and recommendations presented in this report for gradation of the material are incorporated into the project specifications.

7.5.2 Excavation

The results of the CPTs indicate the materials to be excavated will include clay fill with sand and silt as well as silty sand. Based on the results of CPT-2, we anticipate loose sand with gravel and some voids may be present in the fill, especially in the upper few feet of the excavation. We anticipate the site can be excavated with conventional equipment.

We anticipate the subgrade exposed at the base of the excavation will be wet and subject to disturbance under equipment loads and construction workers. To protect the base of the excavation and to provide a relatively smooth surface for waterproofing, a concrete mud slab should be cast on the subgrade for the mat or slab-on-grade (if footings are used) prior to placing reinforcing steel. The mud slab will provide a firm working surface on which to place reinforcing steel and waterproofing.

7.5.3 Underpinning

We anticipate underpinning will be required around the perimeter footings to be saved except possibly at the existing rear basement wall where footings supposedly extend below the proposed basement level. However, information is not sufficient at this time to indicate if perimeter columns are supported on individual footings or on continuous footings. We recommend test pits be excavated to verify the footing dimensions and conditions before construction. If the columns are supported on individual spread

footings, underpinning piers should be constructed in sequence underneath the footings without undermining the footings.

Typical underpinning techniques include hand excavated piers and slant-drilled piles. The selection, design, construction, and performance of the underpinning system should be the responsibility of the contractor. The contractor should be familiar with applicable local, state, and federal regulations for the current OSHA Excavation and Trench Safety Standards. The contractor should be solely responsible for the design of underpinning. We should review the design and observe the installation of these systems to confirm that our recommendations have been properly incorporated, and that conditions in the field are as we assumed when determining the underpinning parameters.

If underpinning piers are used, they should extend 2 feet below the planned excavation depth into competent material. Settlement of the piers should be minimal if no significant load will be imposed to the existing footings. However, the existing footings should be monitored during excavation and construction of the basement to verify that unacceptable vertical and lateral movement does not occur.

Beside hand-excavated underpinning piers, conventional slant-drilled piers have been used to temporarily support buildings on other projects where similar soil conditions are present. Slant-drilled piers are constructed by drilling a cylindrical hole within a hand excavated access pit.

The slant-drilled pier holes are typically two feet in diameter and once drilled, a steel beam is lowered in the shaft, underneath the existing foundation and filled with concrete. Because the site is underlain by fill consisting of loose to medium dense sand with varying amounts of fines, caving or excessive lateral deformations toward the shaft cavity can occur. Therefore, either casing or slurry should be used during drilling. Slant-drilled piers should be designed to resist lateral movements as well as support vertical loads.

7.5.4 Shoring

The excavation for the proposed basement and foundation varies in depth between approximately 6 (near the rear of the building) and 19 feet (main lobby area). Because there is insufficient space to slope the sides of the excavation, shoring will be required. There are several key considerations in selecting a suitable shoring system. Those we consider of primary concern are:

- protection of surrounding improvements, including streets, utilities, and adjacent structures
- proper construction of the shoring system to reduce potential for ground movement

- cost
- constructability due to high groundwater level

On the basis of our findings and our experience with sites having similar soil conditions, we evaluated the use of 1) soil nails, 2) underpinning piers with lagging in between and 3) mixed-in-place soil/cement walls. These are discussed in the following sections:

Soil nailing is a method of shoring using grouted reinforcing bars (nails), which are typically spaced between 4 and 6 feet, horizontally and vertically. Facing, usually consisting of a four-inch-thick layer of shotcrete reinforced with wire mesh, stabilizes the excavation face between nails. Soil nails are passive (not tensioned) soil reinforcements that are placed in sufficient quantities within the soil to create a coherent gravity mass. Horizontal displacements may be greater than those associated with tieback construction, and therefore, soil nail shoring may not be feasible adjacent to the existing structures.

We judge underpinning piers with timber lagging is feasible but would require extensive dewatering before the piers can be installed. Additionally, it would be difficult to install lagging in areas where perched water is encountered. Perched water can transport soil through the lagging resulting in the creation of voids behind the lagging.

Mixed-in-place, closely spaced, soil/cement columns would likely be the most watertight shoring systems and thus require the least dewatering. In addition, mixed-in-place soil/cement walls would be relatively rigid and could significantly limit lateral deflections and ground subsidence related to the excavation. The columns could be slant drilled beneath footings that need to be underpinned. The disadvantages of these systems are cost and space requirements. Unless used as underpinning, these systems will require a width of about three feet around the perimeter of the site.

Lateral resistance may be mobilized by extending the shoring below the bottom of the excavation and using internal braces or tiebacks. However, tiebacks will have relatively low capacities in the fill. Because the depth of excavation is relatively shallow, tiebacks with low capacities may still be feasible. If tiebacks are used to provide lateral support for the shoring, care should be taken to locate utilities and other possible underground obstructions prior to installation. Information regarding the below-grade portion of the adjacent structures and their foundation is not available at this time; encroachment permits will be required to install tiebacks below existing adjacent buildings. If encroachment permit cannot be obtained, internal bracing is an option.

The selection, design, construction, and performance of the shoring system should be the responsibility of the contractor. However, the shoring should be designed by a structural engineer knowledgeable in this type of construction, and we should review the design to confirm it incorporates our concerns regarding the shoring.

7.5.5 Excavation Monitoring

During excavation, the shoring system may yield and deform, which could cause surrounding improvements to settle and move laterally. The magnitude of shoring movements and resulting ground deformations are difficult to estimate because they depend on many factors, such as soil conditions, type of shoring system and the contractor's skill in installing the shoring. Considering the excavation will extend up to 15 feet into very dense silty sand/ hard clay, we anticipate the horizontal and vertical deformation for a properly installed tied back / braced shoring system may be on the order of 1 to 1½ inch. Potential deformations should be estimated by the shoring designer.

A monitoring program should be established to evaluate the effects of the construction on the adjacent improvements and the existing building. The contractor should install surveying points to monitor the movement of shoring and settlement of adjacent structures and existing building during excavation. The monitoring should provide timely data which can be used to modify the shoring system if needed.

7.5.6 Dewatering

The proposed excavation will extend up to 11 feet below the design groundwater level. Seepage of water through the walls of the excavation may cause erosion or sloughing of the underpinning pits or softening of the basement subgrade. Because we anticipate the fill encountered will be variable (based on CPT-1 and CPT-2 results), the amount of seepage into the excavation is difficult to predict. To reduce the amount of water seeping into the excavation, temporary dewatering will be required.

The groundwater level at the site should be lowered to a depth of at least three feet below the bottom of the planned maximum excavations and maintained at this level until sufficient weight and/or uplift capacity is available to resist the hydrostatic uplift forces on the bottom of the structure. The project structural engineer should evaluate when the dewatering can be stopped.

The efficiency of the dewatering system will depend to some extent on the type of shoring system used. For example, a soil/cement mix wall would likely be relatively more water-tight than soldier beam/underpinning piers with timber lagging, thus requiring less dewatering.

The selection and design of the dewatering system should be the responsibility of the contractor. The contractor will need to obtain a dewatering permit from the City and County of San Francisco (City) for discharging water into the local municipal waste water collection system. The dewatering permit requires chemical testing for characterizing the water to be discharged. No chemical testing of the groundwater has been performed by us to-date. Currently there is a fee for disposing of construction generated water in the City's waste water collection system.

Excessive site dewatering could result in subsidence of the immediate area. Therefore, adjacent buildings and streets should be monitored for vertical movement, while dewatering is in progress.

7.6 Corrosivity Evaluation

CERCO Analytical of Pleasanton, California performed a corrosivity test on a representative sample at a depth of 15 feet below the existing slab-on-grade in Boring B-3. Corrosion potential was determined based on the nominal resistivity measurement (100 percent saturation), electrical conductivity, chloride ion concentration, sulfate ion concentration, soluble sulfide concentration, pH, and redox potential.

The results of corrosivity testing as well as a summary describing the corrosion characteristics of the near surface soil and protection recommendations are included in Appendix C. We recommend a corrosion expert be consulted during the design phase for the most economical and effective corrosion protection.

8.0 RECOMMENDATIONS

In accordance with our scope of work, recommendations for site preparation, foundations, temporary shoring, tiedown, underpinning, below grade walls and slabs, dewatering, and seismic design are presented in the following sections.

8.1 Site Excavation, Subgrade Preparation and Backfill

We anticipate the soil removed from the basement excavation will generally consist of a mix of silty sand and sandy clay with varying amounts of sand, silt, and gravel. We judge the soil excavated from the basement can be reused if approved by the project architect, and provided it contains no rocks, lumps or rubble larger than three inches in greatest dimension and can be compacted to the desired degree of compaction. Remnants of underground utilities (e.g. existing brick sewer line), building debris, and other obstructions may be encountered during excavation. Soil excavated from below the groundwater level will likely be wet and require drying before it can be used as backfill. However, because of the limited

space available at the site, we judge it may not be feasible to stockpile the soil removed from the basement for reuse as backfill for other site improvements, and imported soil may be required.

All fill placed at the site, including the excavated on-site material or imported fill, should contain no rocks or lumps larger than three inches in greatest dimension. Imported fill should have a plasticity index (PI) less than 12, a liquid limit less than 40, and be free of organic material. Samples of imported material should be submitted to the geotechnical engineer for approval and testing at least 72 hours before delivery to the site. Fill should be placed in lifts no greater than eight inches in loose thickness, moisture-conditioned to above optimum moisture content, and compacted to at least 90 percent relative compaction[9]. Imported soil with less than 10 percent fines (material passing the No. 200 sieve) should be compacted to at least 95 percent relative compaction. For work performed in City and County of San Francisco streets, the upper three feet of subgrade and the aggregate base in pavement areas should be compacted to at least 95 percent relative compaction.

Demolition debris can be used as backfill provided it is free of bricks, organic material, wood, or other deleterious material. Concrete or other debris used as backfill should be crushed to no greater than four inches in greatest dimension, with no more than 50 percent of the debris by weight greater than two inches in greatest dimension. Demolition debris should be mechanically compacted in lifts no greater than 12 inches in loose thickness. Where demolition material is to be placed as backfill, the lower five feet of the excavation should be backfilled with engineered fill meeting the requirements presented for general site fill. The engineered fill should be compacted to at least 95 percent relative compaction over the entire five-foot depth.

The soil exposed at the subgrade should be graded to produce a level, non-yielding surface. To provide a smooth surface a layer of gravel or lean concrete may be used. Because the proposed foundation extends below the groundwater level, waterproofing the base of the mat (if used) or floor slab will be required. Waterproofing should be placed in accordance with the manufacturer's specifications. The waterproofing should be covered by a mud slab (a layer of low strength concrete). The mud slab should reduce the potential for disturbing the underlying subgrade and protect the waterproofing from damage during mat construction. The mud slab should also provide a firm, smooth surface on which to place the reinforcing steel for the mat or floor slab. A waterproofing specialist should design the waterproofing system.

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[9] Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557-91 laboratory compaction procedure.

We should check the subgrade prior to placing the mud slab or waterproofing for proper bearing. Subgrade areas where loose/soft material is encountered should be removed and replaced with lean concrete. Overexcavation may be required on the northeast corner of the site due to the presence of fill and should be replaced with lean concrete. Where temporary slopes are to be cut, we recommend that they be no steeper than 1.5:1 (horizontal to vertical) in fill and 1:1 in native material.

Areas to receive fill should be scarified to a depth of at least six inches, moisture-conditioned to at least three percent above optimum moisture content, and compacted to between 88 and 93 percent relative compaction.

Fill and backfill should be placed in lifts not exceeding eight inches in loose thickness, moisture-conditioned to above optimum moisture content, and compacted to at least 95 percent relative compaction.

Backfill for utility trenches and other excavations is also considered fill, and it should be compacted according to the recommendations presented above. If imported clean sand or gravel (material with less than 10 percent fines) is used as backfill, it should be compacted to at least 95 percent relative compaction. The materials excavated from the trenches can be reused to backfill those trenches, provided they can be compacted to the desired degree of compaction. Material excavated from utility trenches will likely be wet and require drying before it can be used as backfill. Jetting of trench backfill should not be permitted. Special care should be taken when backfilling utility trenches in pavement areas. Poor compaction may cause excessive settlements, resulting in damage to the pavement section.

8.2 Foundations

8.2.1 Footings

Conventional spread footings can be used to support the proposed building at basement level. We understand the existing perimeter column footings will be underpinned during excavation and bottomed in very dense sand or hard clay. The existing and new footings can be designed with an allowable bearing pressure of 6,500psf (pounds per square foot) for dead plus live load. These pressures may be increased by one-third for total load conditions, including wind and seismic forces.

Continuous perimeter footings should be at least 18 inches wide and isolated spread footings should be at least 24 inches square. Interior footings and continuous footings should be bottomed at least 2 feet below the lowest adjacent soil subgrade.

The foundation excavations should be free of standing water, debris, and disturbed materials prior to placing concrete. If water seeps into the base of the footings, they should be covered with a three-inch mud slab. We should check foundation excavations prior to placement of reinforcing steel.

8.2.2 Mat Foundation

As an alternative, a mat foundation bearing on very dense silty sand or hard clay can be used to support the proposed structure. The average, allowable dead plus live load bearing pressure for the mat should not exceed 6,500 psf. For total loads, including wind or seismic loads, the allowable bearing pressures can be increased by one third.

For design of the mat using a subgrade modulus method, we recommend using a subgrade modulus of 90 pounds per cubic inch (pci). This value is for a maximum bearing pressure of 6,500 psf and ½ inch of settlement. This value can be increased by 1/3 for total loads including seismic forces.

8.2.3 Lateral Resistance

Lateral forces can be resisted by a combination of passive pressure on the vertical faces of the foundations and below-grade walls, provided the walls are appropriately designed for the pressures. Additional resistance can be mobilized as friction along the base footing or mat. Passive resistance may be calculated using an equivalent fluid weight of 150 pcf for the basement footings or mat foundation below the groundwater table. The upper one foot of soil should be ignored unless it is confined by slabs or pavement. Frictional resistance should be computed using base friction coefficients of 0.30 for the basement footings. These values include a factor of safety of at least 1.5. Frictional resistance should be verified once the type of waterproofing has been determined.

8.3 Underpinning

Where hand-excavated piers are used to underpin the foundations of the façade to be saved, they should be designed to gain support through end bearing using an allowable bearing pressure of 6,500 psf. Piers should be bottomed at least 2 feet below the bottom of the planned excavation. The soil between the piers should be retained by shotcrete facing or wood lagging. If wood lagging is used, any voids behind the lagging created during excavation should be filled with grout immediately.

The bottom of the piers should be free of standing water, debris, and disturbed materials prior to placing concrete. We should check the excavation prior to placement of reinforcing steel to confirm the exposed

soil is suitable to support the design bearing pressures. If loose or soft soil or undesirable material is encountered, it should be removed and the overexcavation backfilled with lean or structural concrete to the bottom of the pier.

Slant-drilled piers have been used on other projects where similar soil conditions are present. Slant drilled piers would gain their capacity in friction and should extend at least 15 feet beneath the proposed excavation. If slant-drilled piers are used in lieu of hand-excavated piers, we recommend they be designed using a skin friction of 400 psf in medium dense fill and 800 psf in the very dense silty sand and very stiff sandy clay. The soil between piers can be retained by additional soil-cement columns or timber lagging.

Underpinning piers should be design to resist lateral pressure (restrained condition) presented in Table 3 of Section 8.5. Lateral pressure from the retained soil and building loads can be resisted by the passive resistance of the piers, and if necessary, by tiebacks. Figure 7 presents our design recommendations for passive resistance and tiebacks. Passive resistance acting on the hand-excavated and slant-drilled piers should be assumed to act over one pier width and twice pier width, respectively.

Furthermore, a surcharge pressure should be added to the design pressures for both hand-excavated and slant-drilled piers whenever an adjacent footing falls above an imaginary line extending upward at a 45-degree angle from the base of the proposed piers. The lateral pressure due to individual footings is complex and should be determined on a case-by-case basis. We can provide parameters for building surcharge pressures once the adjacent building loads and foundation type are known.

The underpinning piers will be permanent structures, the structural engineer should therefore evaluate if the vertical and lateral capacity of the underpinning piers would be sufficient for the existing footings that will be used for the proposed improvements if new load is added.

8.4 Basement Floor

If individual footings will be used as foundations for the proposed improvements, the floor slab at the basement resting on competent soil can be designed as slabs-on-grade. However, to adequately resist uplift pressures, tiedown anchors may be required. Alternatively, the top of a mat foundation may be used as the lowest basement floor, or a thin layer of concrete (topping slab) may be placed directly above the mat to provide a smooth wearing surface.

Permanent waterproofing will be required beneath the proposed basement mat foundation/footings and floor slab and along the basement walls due to the planned construction below the groundwater table. We recommend a waterproofing consultant be retained to determine the most appropriate system for this project. Installation of waterproofing should be performed in accordance with the manufacturer's recommendations. The acceptability of pouring a mud slab on the foundation subgrade prior to application of the waterproofing membrane should be checked with the manufacturer.

8.5 Permanent Basement Walls

We recommend all basement walls be designed to resist lateral pressures imposed by the adjacent soil and vehicles. In addition, the basement wall should also be designed to resist surcharging from the footings of the adjacent properties.

Because the project site is in a seismically active area, we recommend the basement walls be designed to resist additional loads associated with seismic forces. We recommend designing the walls to resist the more critical condition of either the at-rest pressure, or the active pressure plus a seismic pressure increment corresponding to a rectangular distribution of 10H (in psf) where H is the height of the wall in feet. Basement walls should be designed for the pressures presented in Table 3, where H is the height of the wall in feet. Additional surcharge loads from foundations supporting the adjacent structures should be included in the design. We can provide the additional lateral pressure due to the building surcharge when we receive the information.

TABLE 3
Lateral Earth Pressures

Soil Type and Conditions	Static Conditions		Seismic Conditions
	Unrestrained Walls	Restrained Walls	
Fill above water table	40 pcf	60 pcf	40 pcf + 10H psf
Fill below water table	85 pcf	90 pcf	85 pcf + 10H psf
Native Soil below the water table	80 pcf	85 pcf	80 pcf + 10H psf

A traffic surcharge of 100 pounds per square foot (psf) should be added to the top 10 feet of walls where traffic is expected within 10 feet of the walls.

The lateral earth pressures given assume the walls are properly backdrained above the water table to prevent the buildup of hydrostatic pressure. One acceptable method for backdraining the wall is to place a prefabricated drainage panel against the back side of the wall. The drainage panel should extend down to the design groundwater elevation (10 feet below the existing ground surface). We should check the manufacturer's specifications regarding the proposed prefabrication drainage panel material to confirm it is appropriate for its intended use.

Another acceptable alternative is to backdrain the wall with Caltrans Class 2 permeable material at least one foot wide extending down to the base of the wall. Filter fabric should be placed between the gravel drain and the natural ground. This system is usually not used where shoring is used as the backside form for the walls.

To protect against moisture migration, below-grade walls should be waterproofed and water stops placed at all construction joints. The waterproofing should be placed directly against the backside of the walls unless the manufacturer of the waterproofing directs otherwise.

Wall backfill should be compacted to at least 90 percent relative compaction using light compaction equipment. Wall backfill with less than 10 percent fines, or deeper than five feet, should be compacted to at least 95 percent relative compaction for its entirety. If heavy equipment is used, the wall should be appropriately designed to withstand loads exerted by the equipment and/or temporarily braced.

8.6 Shoring

Shoring may be cantilevered where the depth of excavation permits, and either tied back or internally braced where necessary. Tie back or braced shoring should be designed to resist the pressures presented on Figure 7. Cantilevered shoring should be designed using the pressures presented on Figure 8. The design pressures are based on the assumption the site will be dewatered to 3 feet below the bottom of the excavation during construction.

If traffic will occur within 10 feet of the shoring depth, a uniform surcharge load of 100 psf should be added to the design. An increase in lateral design pressure for the shoring may be required where heavy construction equipment or stockpiled materials are within a distance equal to the shoring depth in feet. Construction equipment should not be allowed within 15 feet of the edge of the excavation, unless the shoring is specifically designed for the appropriate surcharge. The increase in pressure should be determined after the surcharge loads are known. The anticipated deflections of the shoring system should be estimated by the shoring designer to check if they are acceptable. The shoring system should

be sufficiently rigid to prevent detrimental movement and possible damage to adjacent structures and streets.

The selection, design, construction, and performance of the shoring system should be the responsibility of the contractor. Control of ground movement will depend as much on the timeliness of installation of lateral restraint as on its design. We should review the shoring plans and a representative from our office should observe the installation of the shoring.

8.6.1 Tieback Design Criteria and Installation Procedure

Design criteria for tiebacks are presented on Figure 7. As shown on the figure, tiebacks should derive their load-carrying capacity from the rock behind an imaginary line sloping upward from a point 0.2H feet away from the bottom of the excavation at an angle of 60 degrees from horizontal, where H is the excavation depth in feet.

Allowable capacities of the tiebacks will depend upon the drilling method, tieback-hole diameter, grout pressure, and workmanship. Because specialty contractors who install the tiebacks use different types of installation procedures, the skin friction of the tieback will vary. For estimating purposes, we recommend using the allowable skin friction values presented on Figure 7. These values are for pressure-grouted tiebacks and include a factor of safety of 1.5. Higher allowable skin friction values may be used if confirmed with pre-production performance tests. All tiebacks should have a minimum bonded and unbonded length of 15 feet.

Solid flight augers should not be used for tieback installation. We recommend a smooth cased tieback installation method (such as a Klemm type rig) be used.

The contractor should be responsible for determining the actual length of tiebacks required to resist the lateral earth pressures imposed on the temporary retaining systems. Determination of the tieback length should be based on the contractor's familiarity with his installation method. The computed bond length should be confirmed by a performance- and proof-testing program under our observation. Tieback testing should be performed after grout has been allowed to set up to obtain a compressive strength of at least 3,000 pounds per square inch (psi) at 28 days. Replacement tiebacks should be installed for tiebacks that fail the load test.

The first two production tiebacks and two percent of the remaining tiebacks should be performance-tested to at least 1.25 times the design load. All other temporary tiebacks should be proof-tested to at

least 1.25 times the design load. Recommendations for tieback testing are presented in Section 8.4. The performance tests will be used to determine the load carrying capacity of the tiebacks and the residual movement. The performance-tested tiebacks should be checked 24 hours after initial lock off to confirm stress relaxation has not occurred. The geotechnical engineer should evaluate the results of the performance tests and determine if creep testing is required and select the tiebacks that should be creep tested. If any tiebacks fail to meet the proof-testing requirements, additional tiebacks should be added to compensate for the deficiency, as determined by the shoring designer at the expense of the contractor.

8.6.2 Internal Bracing

As discussed in Section 7.5.4, tiebacks may not be feasible if encroachment permits cannot be obtained. Internal bracing such as horizontal struts or inclined rakers can be used. The lateral earth pressure diagram presented on Figure 7 can be used for internal bracing. These pressures are based on the assumption the interior and exterior of the excavation will be dewatered to 3 feet below the bottom of excavation. Control of ground movement will depend as much on the timeliness of installation of lateral restraint / raker as on the design. Internal bracing should be installed as close to the time of excavation as possible. Excavation should not proceed below a level of bracing until the bracing at that level has been installed and locked off. Jacking (preloading) of the bracing against the sides of the excavation can reduce movement of the shoring.

The contractor or his designer should be responsible for determining the type and size of bracing/ rakers required to resist the recommended pressures. We should review the shoring plans and a representative from our office should observe the installation of the shoring system.

8.7 Tiedown Anchors

Tiedown anchors may be used to provide uplift resistance across portions of the mat or slab-on-grade where the uplift pressure will exceed the anticipated building loads. The hydrostatic uplift load should be computed using a design groundwater at Elevation 56.5 feet. Tiedown anchors typically consist of relatively small-diameter, drilled, concrete or grout-filled shafts; high strength bars with a minimum stressing length (free length) of 15 feet and a bond length of 15 feet should be used as tensile reinforcement in the anchors. The anchors will develop their uplift resistance from friction between the sides of the shaft and the surrounding rock.

Tiedown anchors should be spaced at least four-shaft diameters center-to-center, with a minimum of four feet and should not be spaced more than the width that the slabs-on-grade can resist the hydrostatic uplift. The ultimate bond strength between the anchor and soil will depend on the installation procedure. For planning purposes, however, we recommend using an allowable skin friction of 800 psf. The actual bond strength should be determined by the shoring contractor or his designer. Higher values may be obtained depending upon the techniques employed by the contractor and the results of pullout tests. The tiedown anchors will be installed below the water table; therefore, the contractor should be prepared to use an auger-cast system or to case the holes if caving soil is encountered.

Special attention should be given to waterproofing the connections between the tiedown anchors and the mat. Because the tiedowns will be permanent, encapsulated tendons should be used (double corrosion protection). Corrosion protection requirements regarding the bonded and unbonded length, and stressing anchorage are outlined below:

- encapsulations used to provide an additional corrosion protection layer over the tendon bond length should consist of a grout filled, corrugated plastic sheathing, or grout filled deformed steel tube; the prestressing steel can be grouted inside the encapsulation prior to inserting the tendon into the drill hole or after the tendon has been placed; centralizers or grouting techniques should provide a minimum of ½ inch of grout cover over the encapsulation
- a sheath filled with corrosion inhibiting compound or grout, or a heat shrinkable tube internally coated with a mastic compound should be used to provide corrosion protection of the unbonded length
- the trumpet should be sealed to the bearing plate and overlap the unbonded length corrosion protection by at least four inches; it should be completely filled with a corrosion inhibiting compound or grout
- all stressing anchorages permanently exposed to the atmosphere should be grout-filled; stressing anchorages encased with at least two inches of concrete do not require a cover
- If water is present in the shaft, concrete should be placed using a tremie system. The first two production tiedowns and two percent of the remaining tiedowns should be performance-tested to 1.5 times the design load. All other tiedowns should be proof-tested to 1.5 times the design load. The anchors should be tested as recommended in Section 8.8. After testing, all anchors should be loaded and locked off to a portion of their design load as determined by the structural engineer and indicated on the structural drawings and/or specifications.

8.8 Tieback and Tiedown Anchor Testing

Each tieback/tiedown should be tested. The maximum test load should not exceed 80 percent of the yield strength of the tendons or bars. The movement of each tiedown should be monitored with a free-standing, tripod-mounted dial gauge during performance and proof testing.

8.8.1 Performance Tests

The performance testing will be used to determine the load carrying capacity and the load-deformation behavior of the tiebacks/tiedowns. It is also used to separate and identify the causes of tieback/tiedown movement, and to check that the designed unbonded length has been established.

In the performance test, the load applied to the tieback/tiedown and its movement is measured during several cycles of incremental loading and unloading. The maximum test load should be held for a minimum of 10 minutes, with readings taken at 1, 2, 3, 6 and 10 minutes. If the difference between the 1- and 10-minute reading is less than 0.04 inch during the loading, the test is discontinued. If the difference is more than 0.04 inch, the holding period is extended to 60 minutes, and the movements should be recorded at 15, 20, 25, 30, 45, and 60 minutes.

The geotechnical engineer should evaluate the results of the performance tests and determine if creep testing is required and select the tiedowns that should be creep tested. Creep tests should be performed in accordance with the latest edition of "Recommendations for Prestressed Rock and Soil Anchors" of Post-Tensioning Institute.

8.8.2 Proof Tests

A proof test is a simple test that is used to measure the total movement of the tieback/tiedown during one cycle of incremental loading. The maximum test load should be held for a minimum of 10 minutes, with readings taken at 1, 2, 3, 4, 5, 6, and 10 minutes. If the difference between the 1- and 10-minute reading is less than 0.04 inch, the test is discontinued. If the difference is more than 0.04 inch, the load should be maintained and the observation is continued until the creep rate can be determined. The proof test results should be compared to the performance test results. Any significant variation from the performance test results will require performance testing on the tieback/tiedown.

We should evaluate the results of performance and proof tests to check that the tiebacks/tiedowns can resist the design load. For any tiebacks/tiedowns that fail to meet the performance and proof testing

requirements, additional tiebacks/tiedowns should be installed to compensate for the deficiency, as required by the shoring designer and project structural engineer.

8.8.3 Acceptance Criteria

The geotechnical engineer should evaluate the tiebacks/tiedowns test results and determine whether the tiebacks/tiedowns are acceptable. A performance- or proof-tested tiebacks/tiedowns with a ten-minute hold is acceptable if the tiebacks/tiedowns carry the maximum test load with less than 0.04/0.08 inch movement, respectively, between one and ten minutes, and total movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the unbonded length. In addition the total deflection of the tiedowns should not exceed ¾ inch at the design load.

A performance- or proof-tested tiebacks/tiedowns with a 60-minute hold is acceptable tiebacks/tiedowns movement between 6- and 60-minute reading is less than 0.08 inch, and total movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the unbonded length.

If the total movement of the tiebacks at the maximum test load does not exceed 80 percent of the theoretical elastic elongation of the unbonded length, the tiebacks should be replaced by the contractor.

8.9 Dewatering

The collected water from dewatering should be directed to sumps where it should be pumped into the City's municipal waste water collection system. The dewatering system should be in operation until sufficient building weight and/or uplift capacity are available to resist the hydrostatic uplift pressure. Elevator and sump pits should be locally dewatered.

If the pumped groundwater is disposed of in the City storm drain, it is likely the discharge will have to be metered. The volume of water discharged should be monitored and a record of the amount be submitted to the owner.

Adjacent site improvements should be monitored for vertical movement caused by the dewatering. Furthermore, groundwater levels outside the excavation should be monitored through wells while dewatering is in progress. Should settlement or groundwater drawdown which is deemed potentially damaging to surrounding improvements be measured, the contractor should be prepared to recharge the groundwater outside the excavation through recharge wells, or alter the dewatering program to reduce the drawdown to an acceptable level.

8.10 Temporary Slopes

Where space permits, the sides of the excavation may be sloped. Based on the results of our field investigation, we judge the soil exposed in the slope cuts will generally consist of clay with varying amounts of sand and silt. We recommend temporary slopes not exceed inclinations of 1:1 (horizontal to vertical) where cohesive clay and silt is exposed in the slope cut. If loose sand or gravel is encountered in slope, it may be necessary to flatten to slope to an inclination of 1.5:1

Contractors should be familiar with applicable local, state, and federal regulations for temporary sloping, including the current OSHA Excavation and Trench Safety Standards. The contractor should be solely responsible for the design of temporary construction slopes. The design of the temporary slopes should be reviewed by the geotechnical engineer, and construction of temporary slopes should be observed by the geotechnical engineer.

8.11 Utilities and Utilities Trenches

Utility trenches should be excavated a minimum of four inches below the bottom of pipes or conduits and have clearances of at least four inches on both sides. Where necessary, trench excavations should be shored and braced to prevent cave-ins and/or in accordance with safety regulations. Where trenches extend below the groundwater level, it will be necessary to temporarily dewater them to allow for placement of the pipe and/or conduits and backfill.

To provide uniform support, pipes or conduits should be bedded on a minimum of four inches of sand or fine gravel. After pipes and conduits are tested, inspected (if required), and approved, they should be covered to a depth of six inches with sand or fine gravel, which should then be mechanically tamped. Backfill should be placed in lifts of eight inches or less, moisture-conditioned to near the optimum moisture content, and compacted to at least 90 percent relative compaction. Beneath streets and sidewalks, the upper three feet of fill should be compacted to at least 95 percent relative compaction. If fill with less than 10 percent fines is used, the entire depth of the fill should be compacted to at least 95 percent relative compaction. Jetting of trench backfill should not be permitted. Special care should be taken when backfilling utility trenches in pavement areas. Poor compaction may cause excessive settlements resulting in damage to the pavement section.

8.12 Concrete Flatwork

Concrete sidewalks including proposed alleyways and other exterior flatwork should be underlain by at least four inches of Class 2 aggregate base conforming to the most recent version of the Caltrans

Standard Specifications. Prior to placement of aggregate base, the soil subgrade should be scarified to a depth of six inches, moisture-conditioned to above optimum moisture content, and compacted to at least 90 percent relative compaction. The aggregate base should also be compacted to at least 90 percent relative compaction.

8.13 Seismic Design

For seismic design in accordance with the provisions of 2007 California Building Code (CBC) we recommend the following:

- Maximum Considered Earthquake (MCE) S_s and S_1 of 1.50g and 0.615g, respectively.
- Site Class C
- F_a and F_v of 1.0 and 1.3, respectively
- Maximum Considered Earthquake (MCE) spectral response acceleration parameters at short periods, S_{MS}, and at one-second period, S_{M1}, of 1.50g and 0.80g, respectively.

Design Earthquake (DE) spectral response acceleration parameters at short period, S_{DS}, and at one-second period, S_{D1}, of 1.00g and 0.533g, respectively.

9.0 GEOTECHNICAL SERVICES DURING CONSTRUCTION

Prior to construction, Treadwell & Rollo, Inc. should review the project plans and specifications to check that they conform to the intent of our recommendations. During construction, our field engineer should provide on-site observation and testing during site preparation; installation tiedown anchors, underpinning; excavation for the proposed basement and foundations; installation of building foundations; and placement and compaction of fill and backfill. These observations will allow us to compare actual with anticipated soil conditions and to verify that the contractor's work conforms to the geotechnical aspects of the plans and specifications.

10.0 LIMITATIONS

The conclusions and recommendations presented in this report apply to the site and construction conditions as we have described them and are the result of engineering studies and our interpretations of the existing geotechnical conditions. Actual subsurface conditions may vary. Should conditions differ substantially from those that we anticipate, some modifications to our conclusions and recommendations may be necessary.

REFERENCES

2007 California Building Code, Title 24, Part 2, Volumes 1 and 2.

California Division of Mines and Geology (1996). "Probabilistic seismic hazard assessment for the State of California," DMG Open-File Report 96-08.

California Division of Mines and Geology (2000). "State of California Seismic Hazard Zones, Zones of Potential for Liquefaction", City and County of San Francisco.

Cao, T., Bryant, W. A., Rowshandel, B., Branum D. and Wills, C. J. (2003). "The Revised 2002 California Probabilistic Seismic Hazard Maps."

City and County of San Francisco, Department of Public Works (1999). State of California

Seismic Hazards Zones, Zones of Liquefaction Potential.

Clough, G.W. and O'Rourke, T.D. (1990). Construction Induced Movements of Insitu Walls; Proceedings of a Conference on Design and Performance of Earth Retaining Structures, Cornell University, Ithaca, New York, ASCE Geotechnical Special Publication No. 25, Edited by Phillip C. Lambe and Lawrence A. Hansen; 18-21.

J. Fred Triggs, P.E. & Paul D. Simpson, P.E., "A Portable Dynamic Penetrometer For Geotechnical Investigations."

Schlocker, J. (1974). "Geology of San Francisco North Quadrangle, California: U.S. Geological Survey" Professional Paper 782, 109 p.

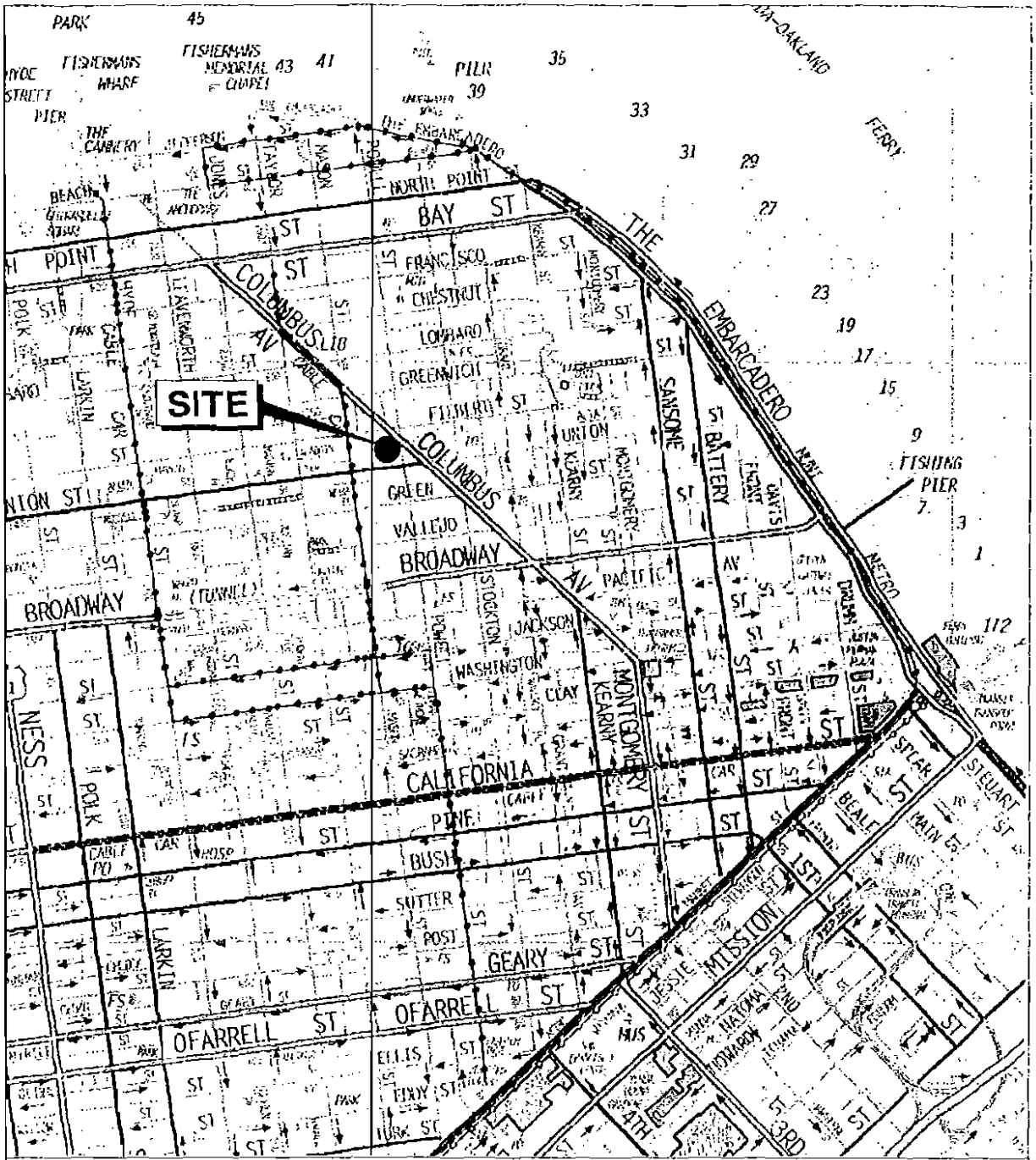
Toppozada, T.R. and Borchardt G., Re-Evaluation of the 1836 "Hayward Fault" and the 1838 San Andreas Fault Earthquakes, Bulletin of Seismological Society of America, Volume 88, Number 1, February 1998.

Treadwell & Rollo, Inc. (2000). "Geotechnical Investigation Muriel's Theatre, 1731-1741 Powell Street, San Francisco, California", 17 July 2000, Project No. 2766.01.

Treadwell & Rollo, Inc. (2000). Letter Report "Geotechnical Consultation for Construction of Proposed Basement Muriel's Theater, San Francisco, California", 18 January 2001, Project No. 2766.02.

USGS San Francisco Bay Regional Geology and Geologic Hazards Map, San Francisco County, 2008.

FIGURES



Base map: The Thomas Guide
San Francisco County
1999

0 1/4 1/2 Mile

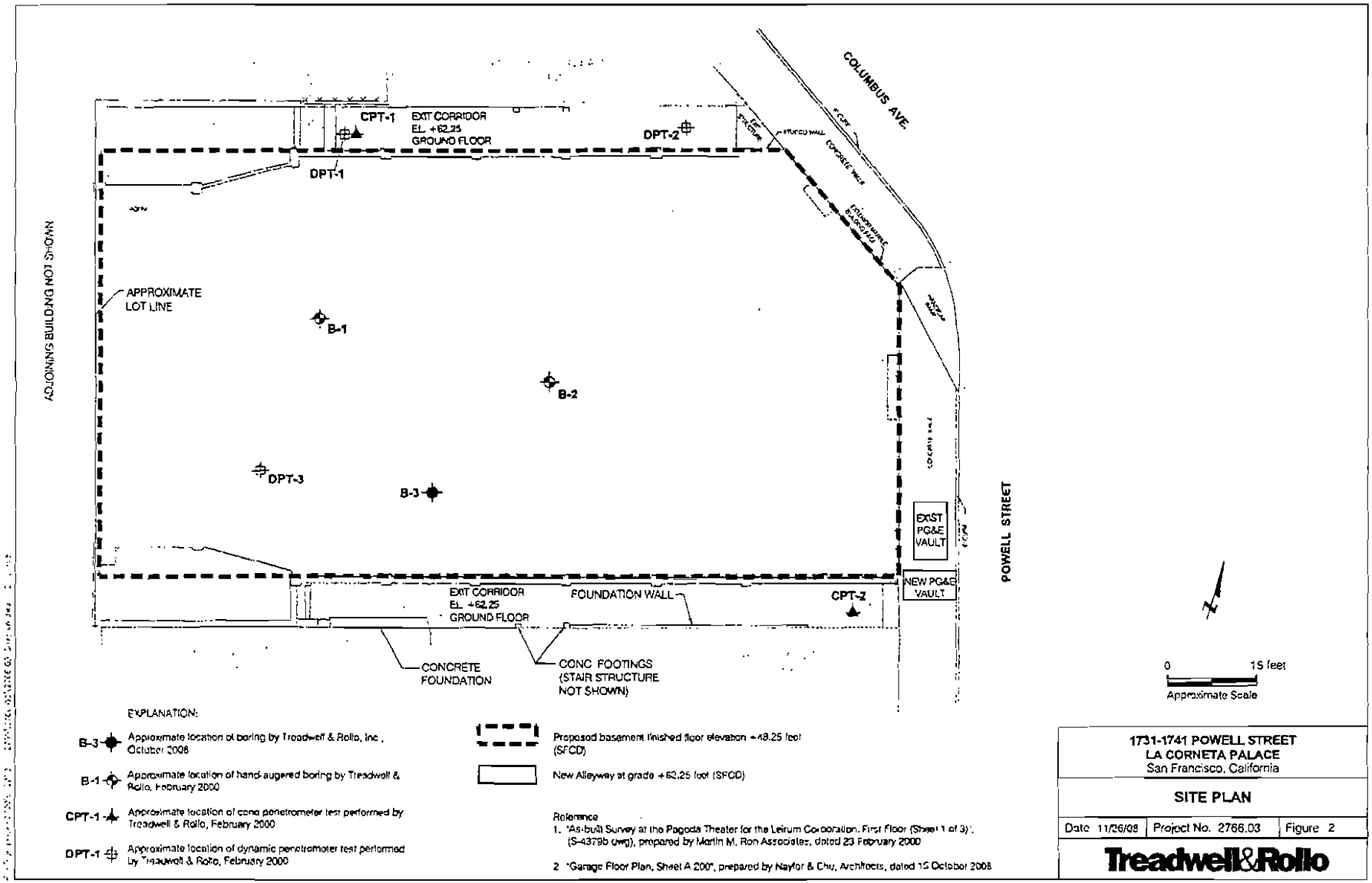
Approximate scale

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

SITE LOCATION MAP

Treadwell&Rollo

Date 11/13/08 | Project No. 2766.03 | Figure 1



EXPLANATION:

B-3 — Approximate location of boring by Treadwell & Rollo, Inc., October 2008

B-1 — Approximate location of hand-augered boring by Treadwell & Rollo, February 2000

CPT-1 — Approximate location of cone penetrometer test performed by Treadwell & Rollo, February 2000

DPT-1 — Approximate location of dynamic penetrometer test performed by Treadwell & Rollo, February 2000

Proposed basement finished floor elevation +48.25 feet (SFCD)

New Alleyway at grade +62.25 feet (SFCD)

Reference

1. "As-built Survey at the Pagoda Theater for the Leirum Corporation, First Floor (Sheet 1 of 3)", (S-4379b.dwg), prepared by Martin M. Ron Associates, dated 23 February 2000

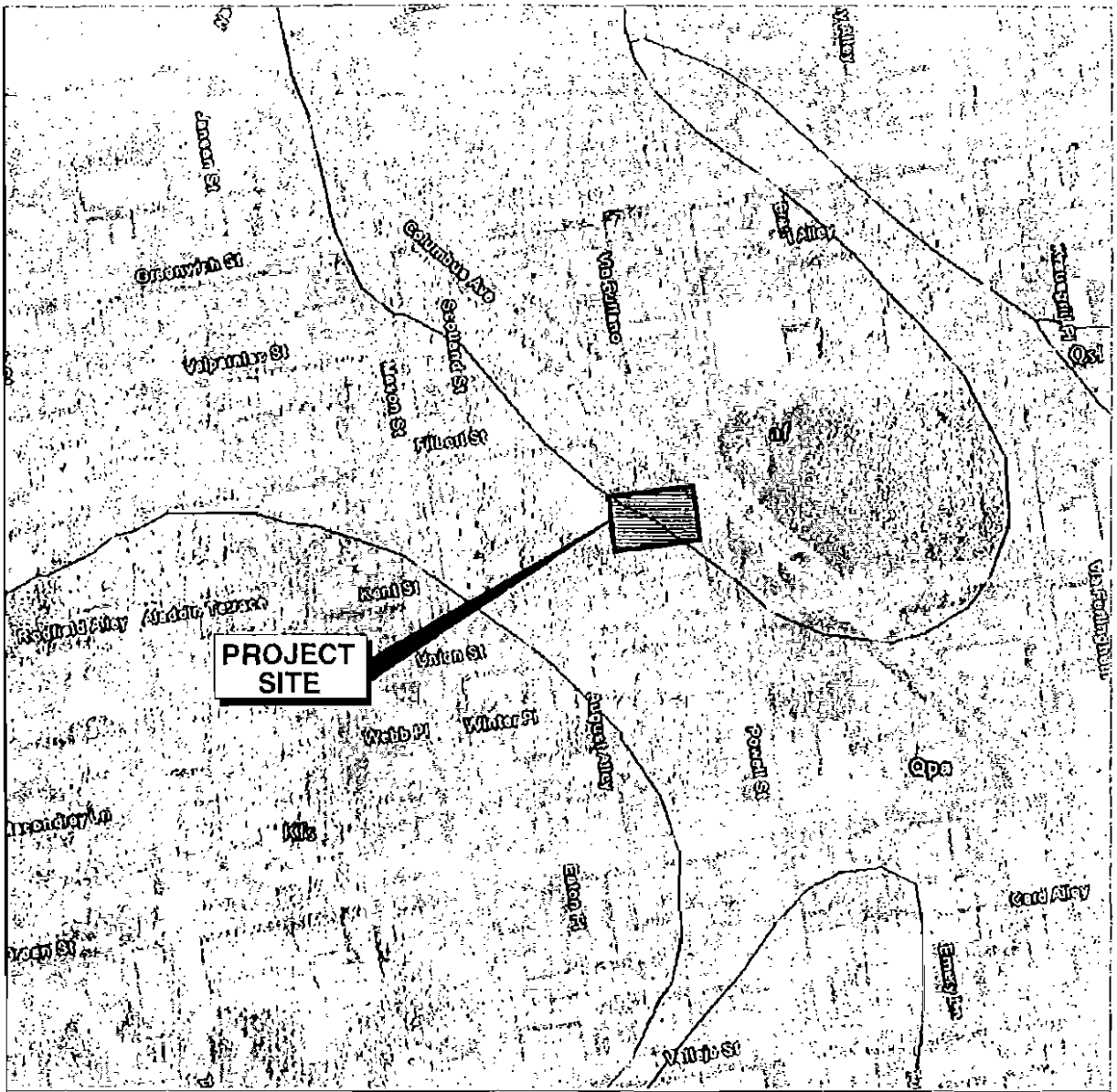
2. "Garage Floor Plan, Sheet A 200", prepared by Naylor & Chu, Architects, dated 15 October 2008

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

SITE PLAN

Date 11/26/08	Project No. 2766.03	Figure 2

Treadwell&Rollo



Base map: Google Earth and USGS San Francisco Bay Regional Geology and Geologic Hazards Map, San Francisco County, 2008.

EXPLANATION

- af — Artificial Fill
- Qsf — Hillslope Deposits (Quaternary)
- Qpa — Alluvium (Pleistocene)
- Kfs — Franciscan Complex sedimentary rocks (Cretaceous)
- Geologic contact — dashed where approximate and dotted where concealed

0 250 Feet

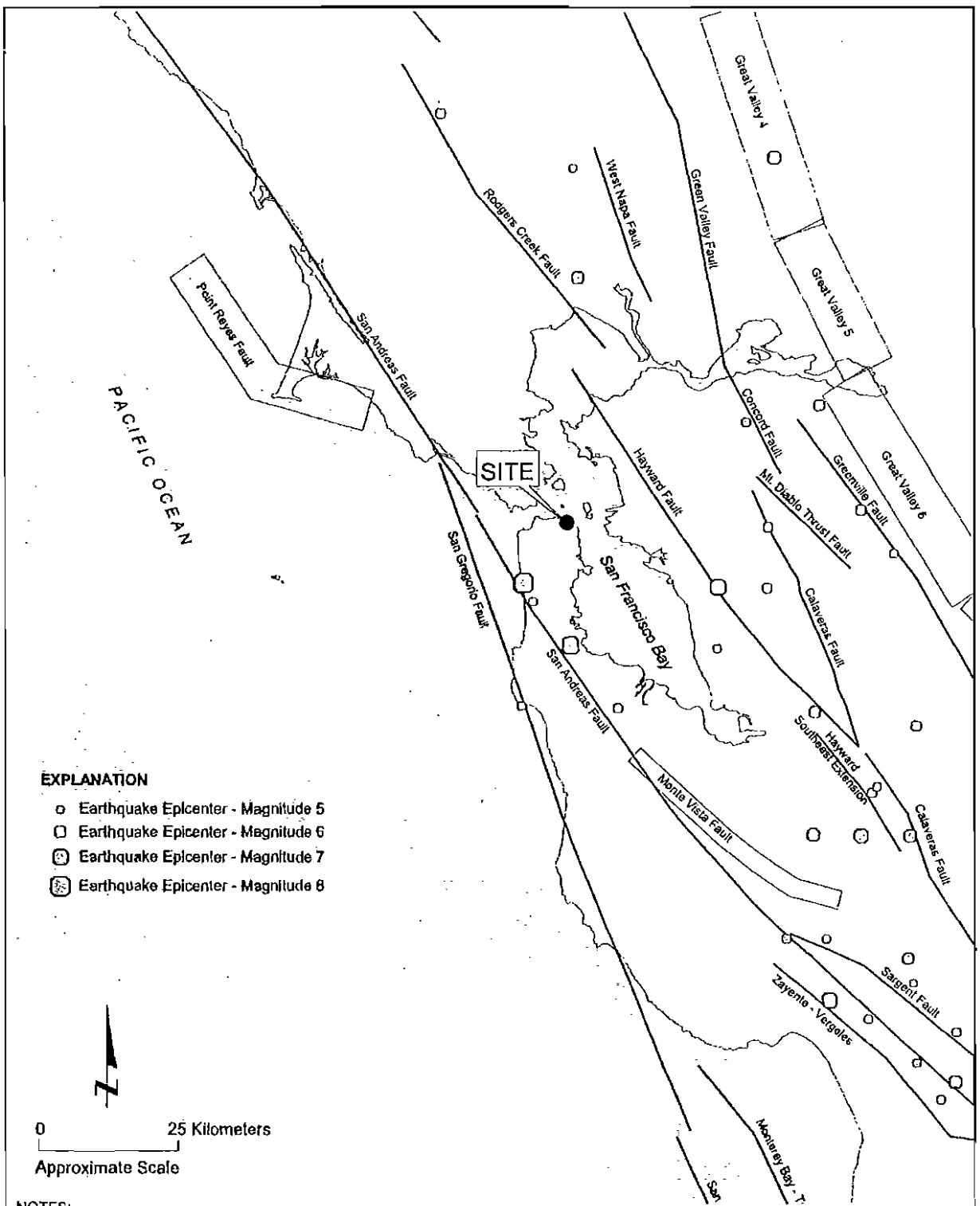
Approximate scale

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

REGIONAL GEOLOGIC MAP

Treadwell&Rollo

Date 11/14/08 | Project No. 2766.03 | Figure 3



NOTES:
Digitized data for fault coordinates and earthquake catalog was developed by the California Department of Conservation Division of Mines and Geology. The historic earthquake catalog includes evants from January 1800 to December 2000.

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

MAP OF MAJOR FAULTS AND EARTHQUAKE EPICENTERS IN THE SAN FRANCISCO BAY AREA

Treadwell&Rollo

Date: 11/26/08 | Project No. 2766.03 | Figure 4

I **Not felt by people, except under especially favorable circumstances. However, dizziness or nausea may be experienced.**
Sometimes birds and animals are uneasy or disturbed. Trees, structures, liquids, bodies of water may sway gently, and doors may swing very slowly.

II **Felt indoors by a few people, especially on upper floors of multi-story buildings, and by sensitive or nervous persons.**
As in Grade I, birds and animals are disturbed, and trees, structures, liquids and bodies of water may sway. Hanging objects swing, especially if they are delicately suspended.

III **Felt indoors by several people, usually as a rapid vibration that may not be recognized as an earthquake at first. Vibration is similar to that of a light, or lightly loaded trucks, or heavy trucks some distance away. Duration may be estimated in some cases.**
Movements may be appreciable on upper levels of tall structures. Standing motor cars may rock slightly

IV **Felt indoors by many, outdoors by a few. Awakens a few individuals, particularly light sleepers, but frightens no one except those apprehensive from previous experience. Vibration like that due to passing of heavy, or heavily loaded trucks. Sensation like a heavy body striking building, or the falling of heavy objects inside.**
Dishes, windows and doors rattle, glassware and crockery clink and clash. Walls and house frames creak, especially if intensity is in the upper range of this grade. Hanging objects often swing. Liquids in open vessels are disturbed slightly. Stationary automobiles rock noticeably

V **Felt indoors by practically everyone, outdoors by most people. Direction can often be estimated by those outdoors. Awakens many, or most sleepers. Frightens a few people, with slight excitement; some persons run outdoors.**
Buildings tremble throughout. Dishes and glassware break to some extent. Windows crack in some cases, but not generally. Vases and small or unstable objects overturn in many instances, and a few fall. Hanging objects and doors swing generally or considerably. Pictures knock against walls, or swing out of place. Doors and shutters open or close abruptly. Pendulum clocks stop, or run fast or slow Small objects move, and furnishings may shift to a slight extent. Small amounts of liquids spill from well-filled open containers. Trees and bushes shake slightly.

VI **Felt by everyone, indoors and outdoors. Awakens all sleepers. Frightens many people; general excitement, and some persons run outdoors.**
Persons move unsteadily. Trees and bushes shake slightly to moderately Liquids are set in strong motion. Small bells in churches and schools ring. Poorly built buildings may be damaged. Plaster falls in small amounts. Other plaster cracks somewhat. Many dishes and glasses, and a few windows break. Knickknacks, books and pictures fall. Furniture overturns in many instances. Heavy furnishings move.

VII **Frightens everyone. General alarm, and everyone runs outdoors.**
People find it difficult to stand. Persons driving cars notice shaking. Trees and bushes shake moderately to strongly. Waves form on ponds, lakes and streams. Water is muddied. Gravel or sand stream banks cave in. Large church bells ring. Suspended objects quiver. Damage is negligible in buildings of good design and construction; slight to moderate in well-built ordinary buildings; considerable in poorly built or badly designed buildings, adobe houses, old walls (especially where laid up without mortar), spires, etc. Plaster and some stucco fall. Many windows and some furniture break. Loosened brickwork and tiles shake down. Weak chimneys break at the roofline. Cornices fall from towers and high buildings. Bricks and stones are dislodged. Heavy furniture overturns. Concrete irrigation ditches are considerably damaged.

VIII **General fright, and alarm approaches panic.**
Persons driving cars are disturbed. Trees shake strongly, and branches and trunks break off (especially palm trees). Sand and mud erupts in small amounts. Flow of springs and wells is temporarily and sometimes permanently changed. Dry wells renew flow. Temperatures of spring and well waters varies. Damage slight in brick structures built especially to withstand earthquakes; considerable in ordinary substantial buildings, with some partial collapse; heavy in some wooden houses, with some tumbling down. Panel walls break away in frame structures. Decayed pilings break off. Walls fall. Solid stone walls crack and break seriously. Wet grounds and steep slopes crack to some extent. Chimneys, columns, monuments and factory stacks and towers twist and fall. Very heavy furniture moves conspicuously or overturns.

IX **Panic is general.**
Ground cracks conspicuously. Damage is considerable in masonry structures built especially to withstand earthquakes; great in other masonry buildings - some collapse in large part. Some wood frame houses built especially to withstand earthquakes are thrown out of plumb, others are shifted wholly off foundations. Reservoirs are seriously damaged and underground pipes sometimes break.

X **Panic is general.**
Ground, especially when loose and wet, cracks up to widths of several inches; fissures up to a yard in width run parallel to canal and stream banks. Landsliding is considerable from river banks and steep coasts. Sand and mud shifts horizontally on beaches and flat land. Water level changes in wells. Water is thrown on banks of canals, lakes, rivers, etc. Dams, dikes, embankments are seriously damaged. Well-built wooden structures and bridges are severely damaged, and some collapse. Dangerous cracks develop in excellent brick walls Most masonry and frame structures, and their foundations are destroyed. Railroad rails bend slightly. Pipe lines buried in earth tear apart or are crushed endwise. Open cracks and broad wavy folds open in cement pavements and asphalt road surfaces.

XI **Panic is general.**
Disturbances in ground are many and widespread, varying with the ground material. Broad fissures, earth slumps, and land slips develop in soft, wet ground. Water charged with sand and mud is ejected in large amounts. Sea waves of significant magnitude may develop. Damage is severe to wood frame structures, especially near shock centers, great to dams, dikes and embankments, even at long distances. Few if any masonry structures remain standing. Supporting piers or pillars of large, well-built bridges are wrecked. Wooden bridges that "give" are less affected. Railroad rails bend greatly and some thrust endwise. Pipe lines buried in earth are put completely out of service.

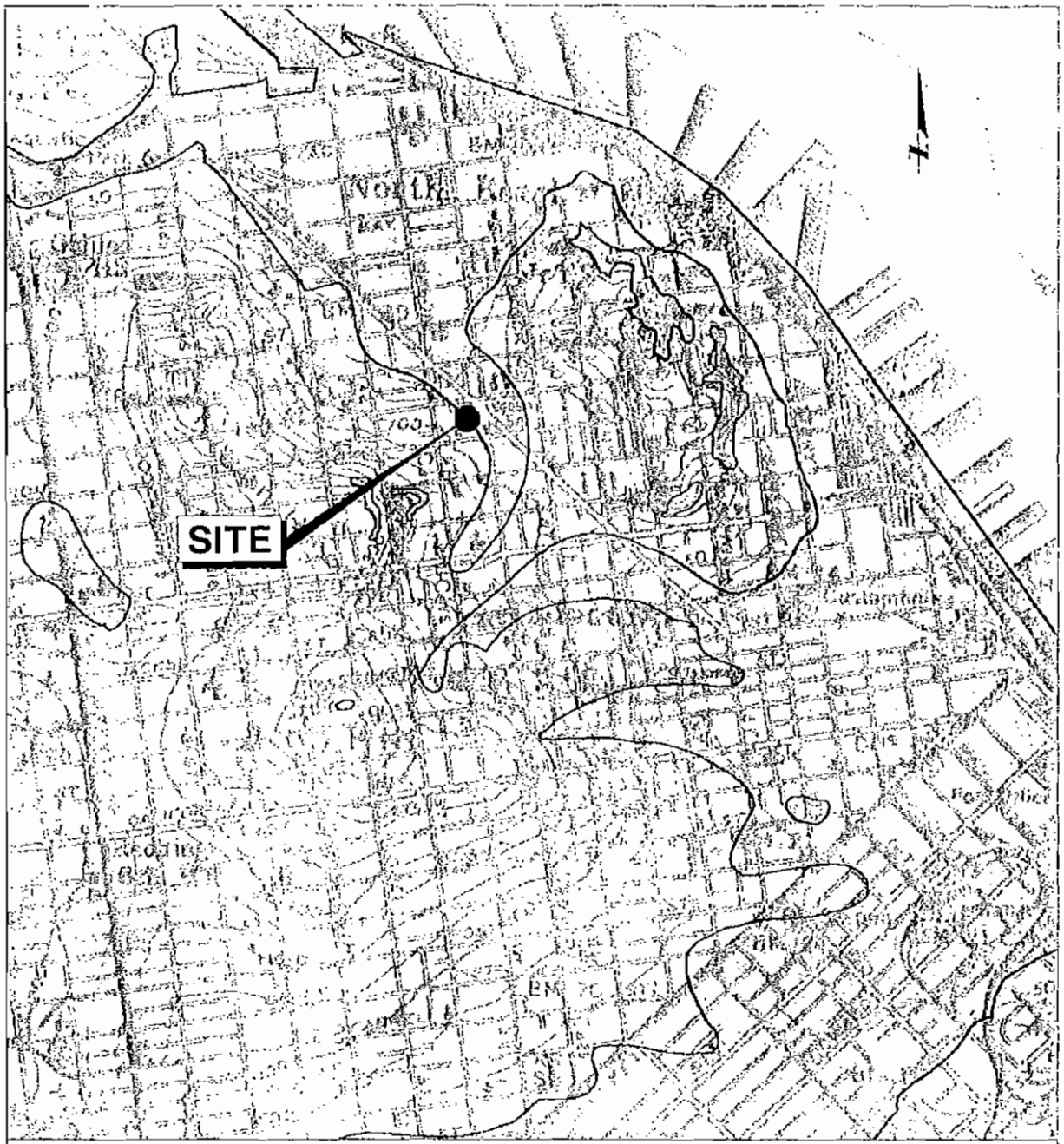
XII **Panic is general.**
Damage is total, and practically all works of construction are damaged greatly or destroyed. Disturbances in the ground are great and varied, and numerous shearing cracks develop. Landslides, rock falls, and slumps in river banks are numerous and extensive. Large rock masses are wrenched loose and torn off. Fault slips develop in firm rock, and horizontal and vertical offset displacements are notable. Water channels, both surface and underground, are disturbed and modified greatly. Lakes are dammed, new waterfalls are produced, rivers are deflected, etc. Surface waves are seen on ground surfaces. Lines of sight and level are distorted. Objects are thrown upward into the air.

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

MODIFIED MERCALLI INTENSITY SCALE

Treadwell&Rollo

Date 11/26/08 | Project No. 2766.03 | Figure 5



EXPLANATION

Liquefaction: Areas where historic occurence of liquefaction, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

Earthquake-Induced Landslides: Areas where previous occurence of landslide movement, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

0 1,000 2,000 Feet

Approximate scale

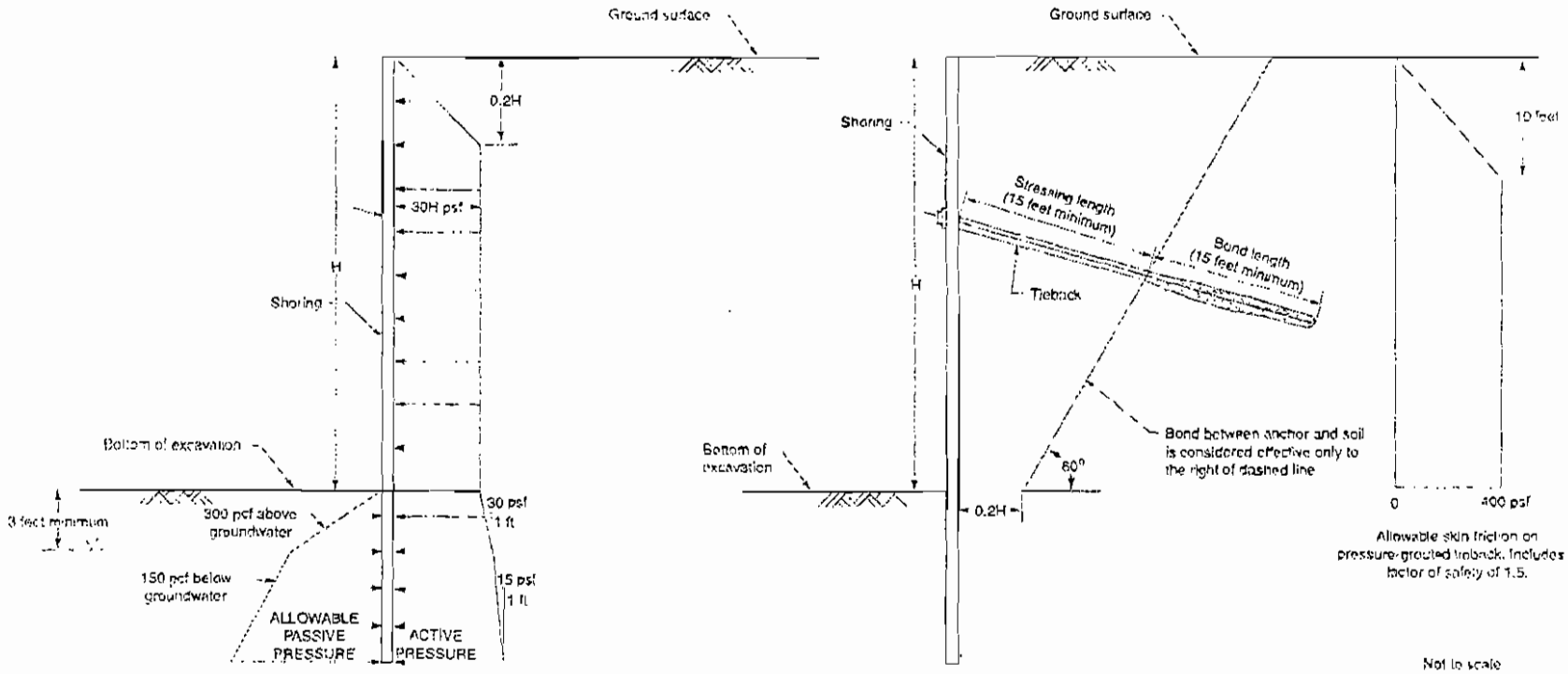
Reference:
State of California "Seismic Hazard Zones"
City and County of San Francisco
Released on November 17, 2001

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

REGIONAL SEISMIC HAZARDS MAP

Treadwell&Rollo

Date 12/01/08 | Project No. 2766.03 | Figure 6



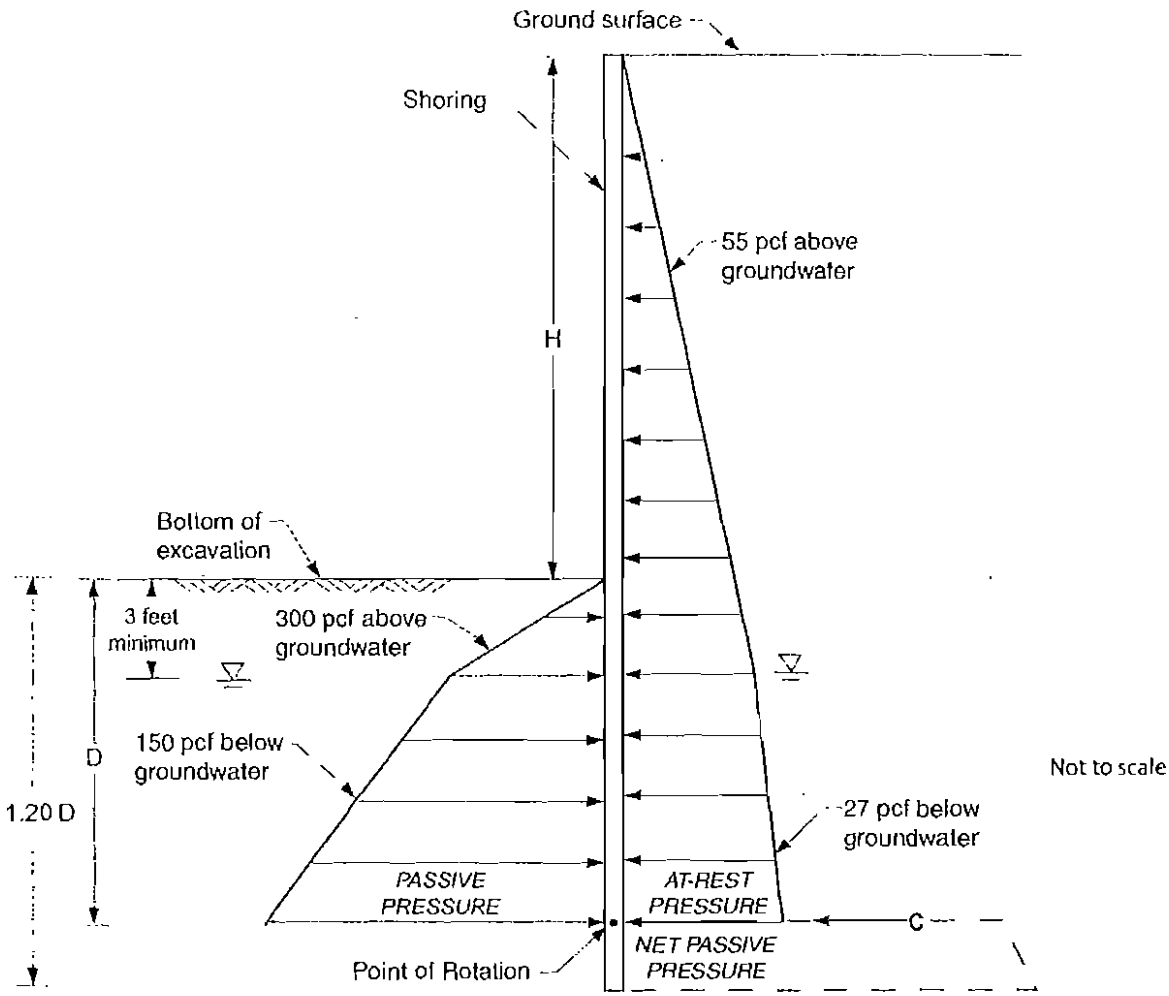
Notes:
1. Passive pressures include a factor of safety of about 1.5.
2. The passive pressures shown are based on the assumption that groundwater level is at least three feet below the bottom of the excavation.
3. For slanted drilled piers spaced at more than three times the slanted drilled piers diameter, the passive pressure should be assumed to act over three diameters.
4. For hand-excavated piers, the passive pressure should be assumed to act over one pier diameter.
5. Active pressure should be assumed to act over one pile diameter.
6. pcf denotes pounds per cubic foot; psf denotes pounds per square foot.
7. The recommended pressures do not include surcharges from adjacent buildings.

1701-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

DESIGN PARAMETERS FOR TIED-BACK/ INTERNAL BRACING SOIL/CEMENT COLUMNS OR UNDERPINNING PIER-AND-LAGGING TEMPORARY SHORING SYSTEM

Date 11/26/08 | Project No. 2766.03 | Figure 7

Treadwell&Rollo



Notes:
1. Simplified pressure diagram is presented above. The net passive pressure on the right side of shoring below the point of rotation is replaced by a concentrated force C at the point of rotation.
2. Passive pressures include a factor of safety of about 1.5.
3. Passive pressures may be assumed to act over the pier spacing or three times the pier diameter, whichever is smaller.
4. Surcharge pressure, due to construction equipment and existing footings, if any, should be added to the above shoring pressure.
5. At-rest pressure below the excavation should be assumed to act over one pier diameter (for structural concrete).
6. Calculated embedment depth, D, should be increased by at least 20 percent to obtain the design depth of penetration.
7. The recommended pressures do not include surcharges from adjacent foundations. Surcharge pressure from adjacent foundations should be added to the above shoring pressures.
8. pcf denotes pounds per cubic foot; psf denotes pounds per square foot.

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

LATERAL EARTH PRESSURES FOR CANTILEVER SHORING SYSTEM

Treadwell&Rollo

Date 11/26/08 | Project No. 2766.03 | Figure 8

APPENDIX A

Log of Boring and Classification Chart

PROJECT:	1731-1741 POWELL STREET LA CORNETA PALACE San Francisco, California	**Log of Boring B-3**

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2 | Logged by: K. Lease

Date started: 10/8/08 | Date finished: 10/8/08

Drilling method: (4-inch) Solid Stem Auger

Hammer weight/drop: 140 lbs./30 inches | Hammer type: Rope & Cathead

Sampler: Sprague & Henwood (S&H), Standard Penetration Test (SPT)

LABORATORY TEST DATA

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: 60 feet[2]						
1						3-Inch Concrete Slab						
2						CLAYEY SAND (SC) brown, medium dense, dry, brick fragments and concrete debris						
3	S&H		20 8 12	12	SC	FILL						
4												
5						▽						
6	S&H		10 23 33	34						15	18.3	
7						SILTY SAND (SM) yellow brown, dense, wet, with occasional gravel						
8												
9												
10	S&H		20 56 50/ 3.5"	64/ 9.5"								
11						very dense				15	18.5	
12												
13												
14												
15	SPT		37 55 50/4"	105/ 10"								
16										13	24.8	
17												
18					SM							
19												
20	SPT		31 50/5"	50/5"								
21												
22												
23												
24												
25	SPT		37 50/4"	50/4"								
26										6	25.9	
27												
28												
29												
30	SPT		65 50/3"	50/3"								
31												

Boring terminated at a depth of 30.75 feet below ground surface.
Boring backfilled with cement grout.
Groundwater encountered at a depth of 5.5 feet during drilling.

[1] S&H and SPT blow counts for the last two increments were converted to SPT N-Values using factors of 0.6 and 1.0, respectively to account for sampler type and hammer energy.
[2] Elevations based on San Francisco City datum.

Treadwell&Rollo

Project No: 2766.03 | Figure: A-1

TEST GEOTECH LOG 276603.GPJ TR.GDT 12/1/08

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		Symbols	Typical Names
Coarse-Grained Soils (more than half of soil > no. 200 sieve size)	Gravels (More than half of coarse fraction > no. 4 sieve size)	GW	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (More than half of coarse fraction < no. 4 sieve size)	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
Fine -Grained Soils (more than half of soil < no. 200 sieve size)	Silts and Clays LL = < 50	ML	Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Silts and Clays LL = > 50	MH	Inorganic silts of high plasticity
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic silts and clays of high plasticity
Highly Organic Soils		PT	Peat and other highly organic soils

GRAIN SIZE CHART

Classification	Range of Grain Sizes: U.S. Standard Sieve Size	Range of Grain Sizes: Grain Size In Millimeters
Boulders	Above 12"	Above 305
Cobbles	12" to 3"	305 to 76.2
Gravel	3" to No. 4	76.2 to 4.76
coarse	3" to 3/4"	76.2 to 19.1
fine	3/4" to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.075
coarse	No. 4 to No. 10	4.76 to 2.00
medium	No. 10 to No. 40	2.00 to 0.420
fine	No. 40 to No. 200	0.420 to 0.075
Silt and Clay	Below No. 200	Below 0.075

Unstabilized groundwater level

Stabilized groundwater level

SAMPLE DESIGNATIONS/SYMBOLS

Sample taken with Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter. Darkened area indicates soil recovered

Classification sample taken with Standard Penetration Test sampler

Undisturbed sample taken with thin-walled tube

Disturbed sample

Sampling attempted with no recovery

Core sample

Analytical laboratory sample

Sample taken with Direct Push sampler

Sonic

SAMPLER TYPE

C Core barrel

CA California split-barrel sampler with 2.5-inch outside diameter and a 1.93-inch inside diameter

D&M Dames & Moore piston sampler using 2.5-inch outside diameter, thin-walled tube

O Osterberg piston sampler using 3.0-inch outside diameter, thin-walled Shelby tube

PT Pitcher tube sampler using 3.0-inch outside diameter, thin-walled Shelby tube

S&H Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter

SPT Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter

ST Shelby Tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

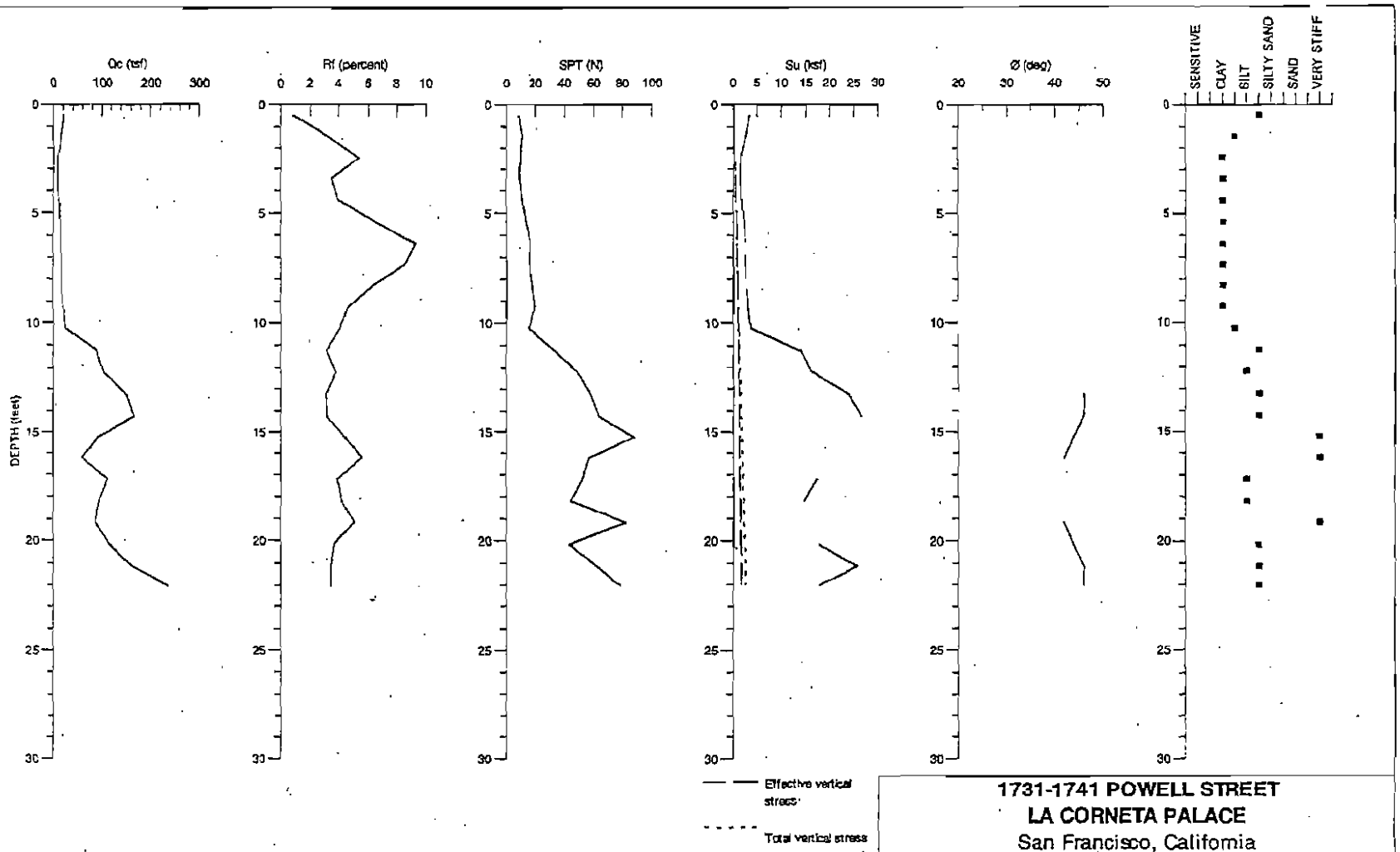
CLASSIFICATION CHART

Treadwell&Rollo

Date 11/13/08 / Project No. 2766.03 | Figure A-2

APPENDIX B

Logs of Cone Penetration Tests and Dynamic Penetrometer Tests from Previous Investigations by Treadwell & Rollo



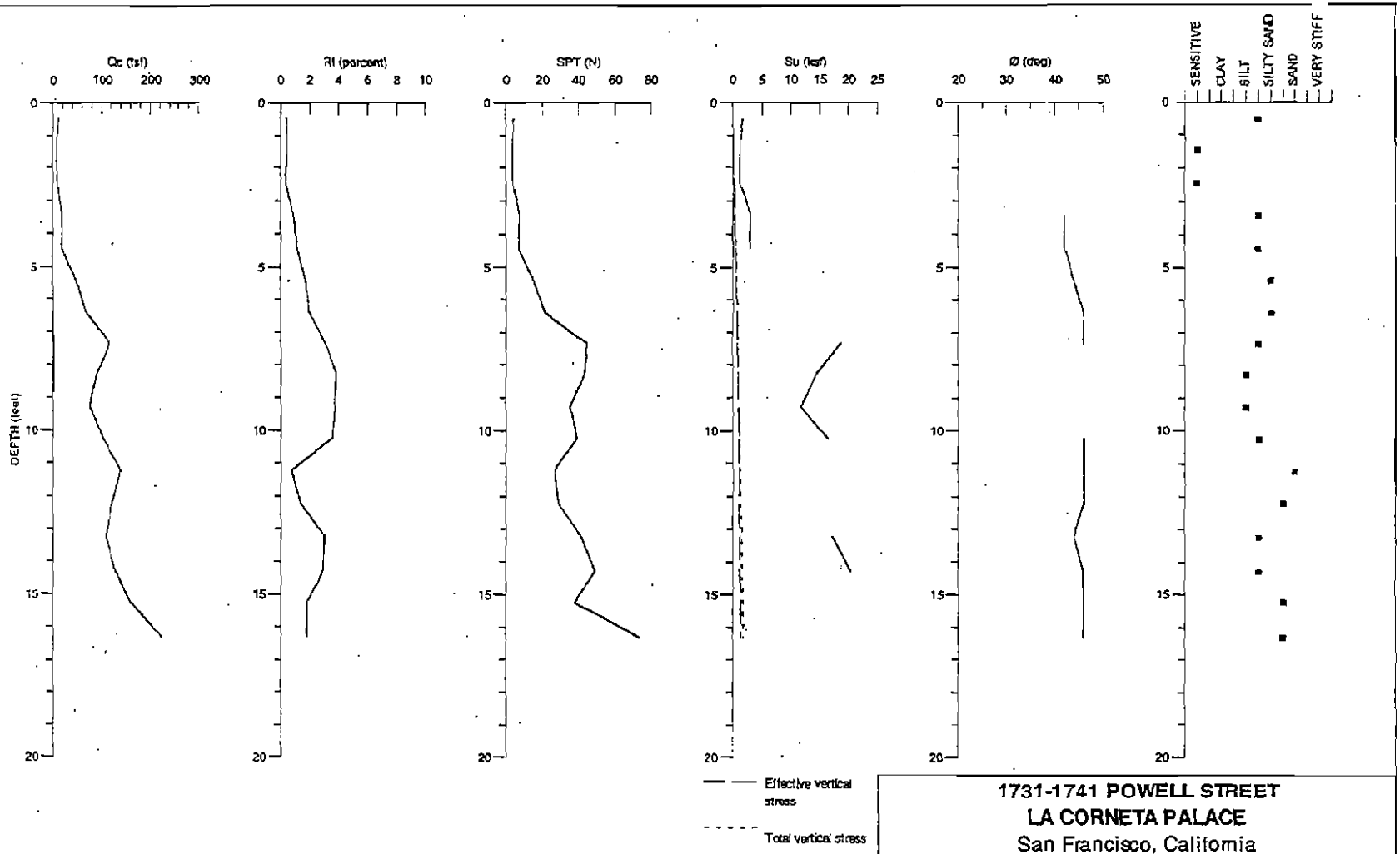
Terminated at 22.05 feet
Groundwater estimated at 8 feet.
Date performed: 29 February 2000.
Elevation: 59.85 feet, based on San Francisco City datum.

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

CONE PENETRATION TEST RESULTS
CPT-1

Date 11/26/08	Project No. 2766.03	Figure B-1

Treadwell&Rollo



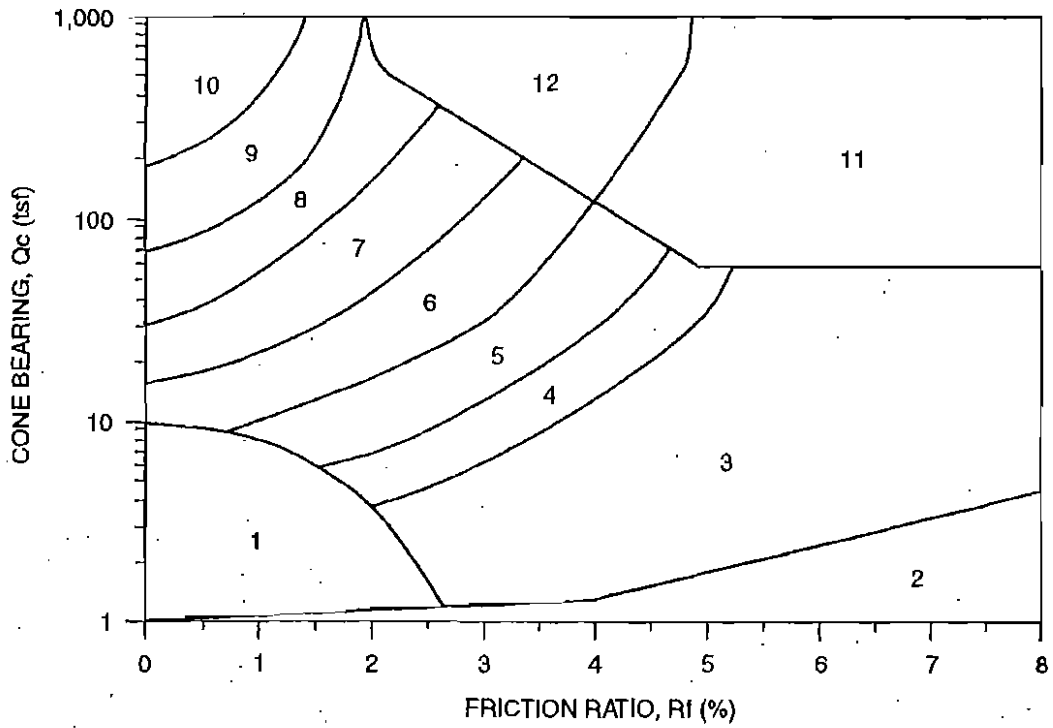
Terminated at 16.31 feet
Groundwater estimated at 8 feet.
Date performed: 29 February 2000.
Elevation: 64.5 feet, based on San Francisco City datum.

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

CONE PENETRATION TEST RESULTS
CPT-2

Date 11/26/08	Project No. 2766.03	Figure B-2

Treadwell&Rollo



ZONE	Qc/N[1]	Su Factor (Nk)[2]	SOIL BEHAVIOR TYPE[1]
1	2	15 (10 for Qc 9 tsf)	Sensitive Fine-Grained
2	1	15 (10 for Qc 9 tsf)	Organic Material
3	1	15 (10 for Qc 9 tsf)	CLAY
4	1.5	15	SILTY CLAY to CLAY
5	2	15	CLAYEY SILT to SILTY CLAY
6	2.5	15	SANDY SILT to CLAYEY SILT
7	3	---	SILTY SAND to SANDY SILT
8	4	---	SAND to SILTY SAND
9	5	---	SAND
10	6	---	GRAVELLY SAND to SAND
11	1	15	Very Stiff Fine-Grained (*)
12	2	---	SAND to CLAYEY SAND (*)

(*) Overconsolidated or Cemented
Qc = Tip Bearing
Fs = Sleeve Friction
Rf = Fs/Qc x 100 = Friction Ratio

Note: Testing performed in accordance with ASTM D3441.

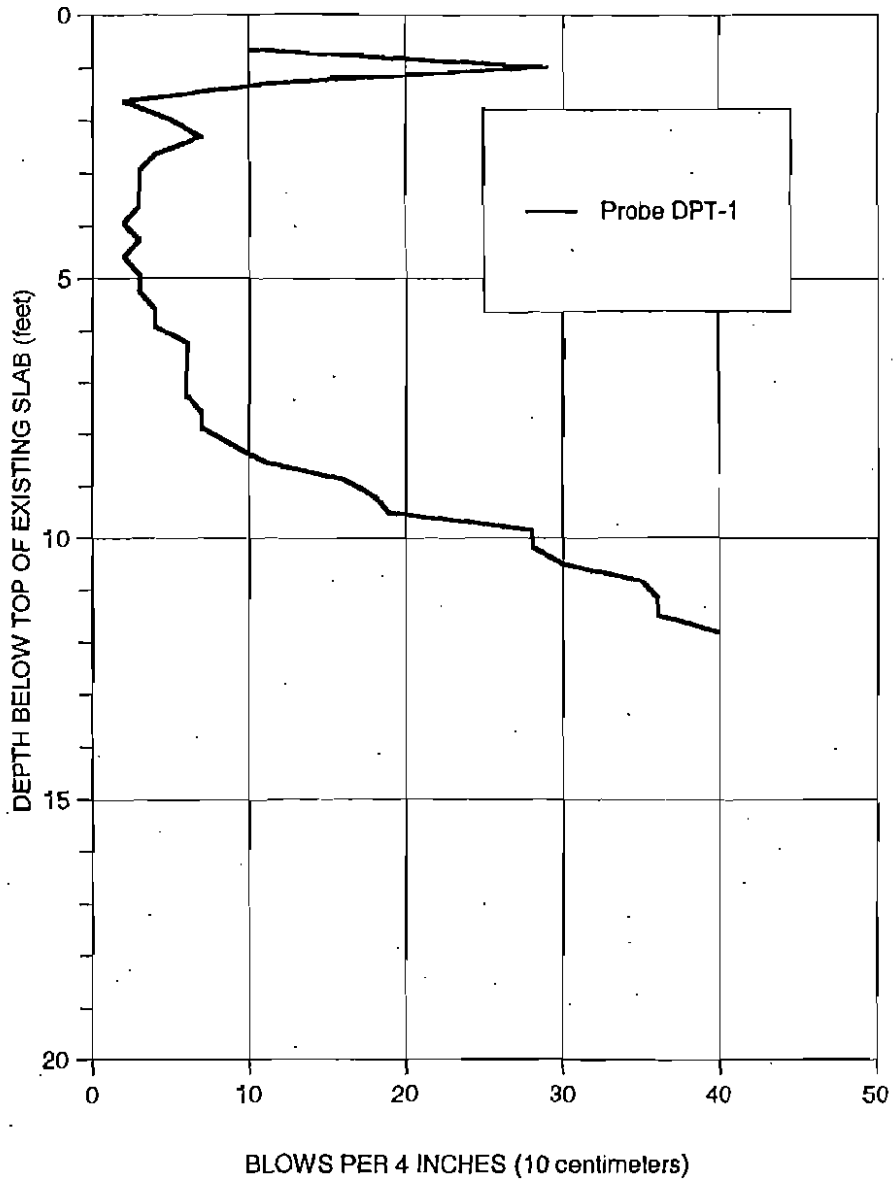
References: 1. Robertson, 1986, Olsen, 1988.
2. Bonaparte & Mitchell, 1979 (young Bay Mud Qc 9).
Estimated from local experience (fine-grained soils Qc > 9).

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

CLASSIFICATION CHART FOR CONE PENETRATION TESTS

Treadwell&Rollo

Date 11/26/08 | Project No. 2766.03 | Figure B-3



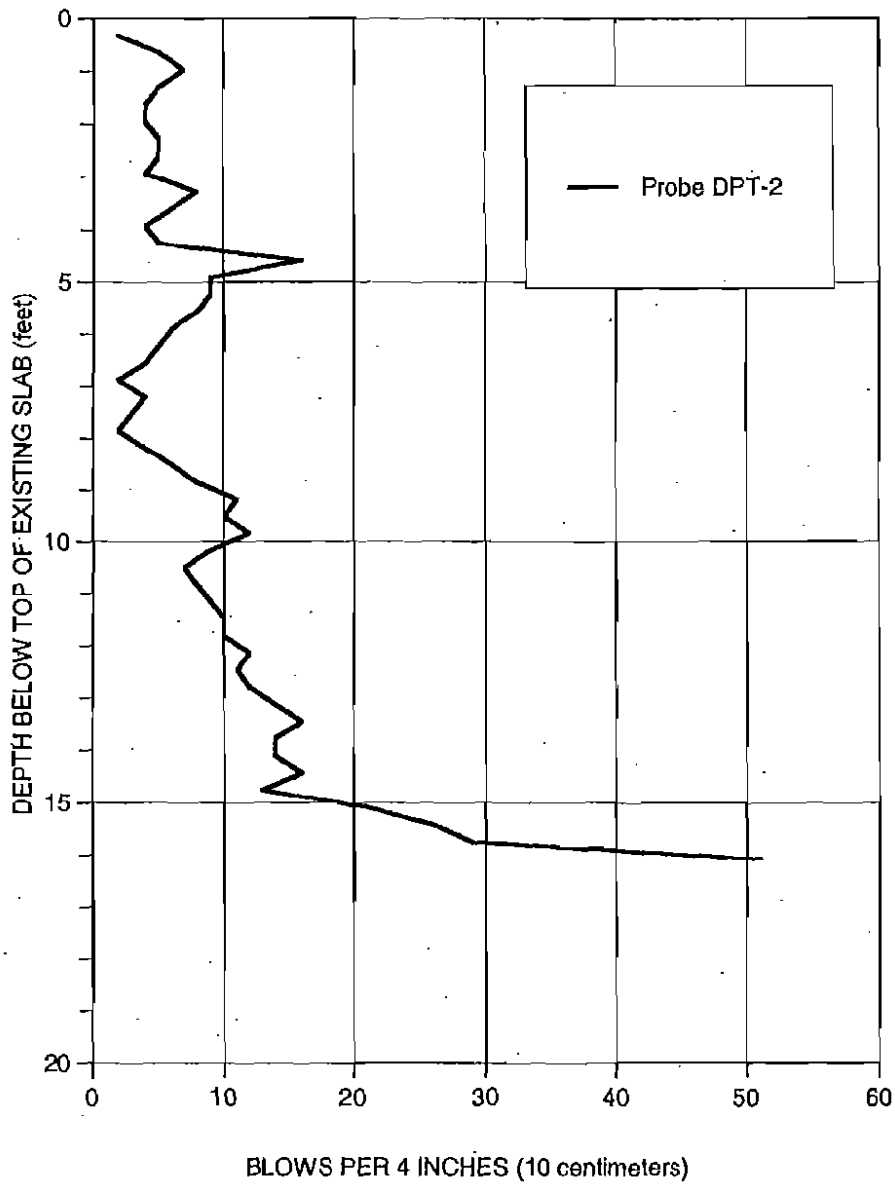
Elevation = 59.8 feet, based on San Francisco City datum.

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

Treadwell&Rollo

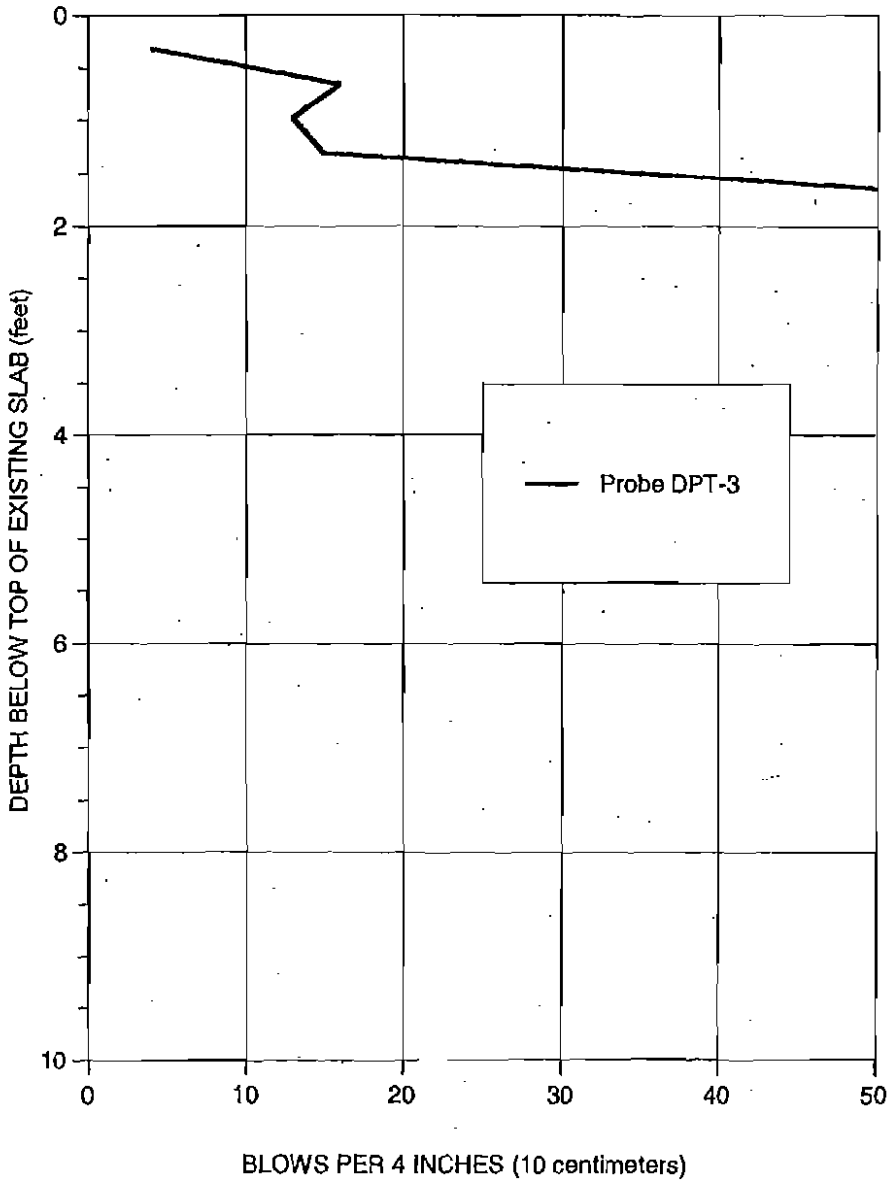
RESULTS OF DYNAMIC PENETROMETER TEST DPT -1

Date 11/26/08 | Project No. 2766.03 | Figure B-4



Elevation = 61.0 feet, based on San Francisco City datum.

1731-1741 POWELL STREET LA CORNETA PALACE San Francisco, California	RESULTS OF DYNAMIC PENETROMETER TEST DPT-2
Treadwell&Rollo	Date 11/26/08 | Project No. 2766.03 | Figure B-5



Elevation = 60.0 feet, based on San Francisco City datum.

1731-1741 POWELL STREET
LA CORNETA PALACE
San Francisco, California

RESULTS OF DYNAMIC PENETROMETER TEST DPT-3

Treadwell&Rollo

Date 11/26/08 Project No. 2766.03 Figure B-6

APPENDIX C

Soil Corrosivity Test Data

California State Certified Laboratory No. 2153

CERCO analytical

1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax: 925 462 2775
www.cercoanalytical.com

25 November, 2008

Job No.0811055
Cust. No.10727

Mr. Timothy Wong
Treadwell & Rollo
555 Montgomery Street, Suite 1300
San Francisco, CA 94111

Subject: Project No.: 2766.03
Project Name: 1731 Powell Street, San Francisco
Corrosivity Analysis – ASTM Test Methods

Dear Mr. Wong:

Pursuant to your request, CERCO Analytical has analyzed the soil sample submitted on November 10, 2008. Based on the analytical results, a brief evaluation is enclosed for your consideration.

Based upon the resistivity measurement, this sample is classified as "corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and diclectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion.

The chloride ion concentration is 20 mg/kg. Because the chloride ion concentration is less than 300 mg/kg, it is determined to be insufficient to attack steel embedded in a concrete mortar coating.

The sulfate ion concentration is 370 mg/kg and is determined to be sufficient to damage reinforced concrete structures and cement mortar-coated steel at these locations. Therefore, concrete that comes into contact with this soil should use sulfate resistant cement such as Type II, with a maximum water-to-cement ratio of 0.55.

The pH of the soil is 8.3 which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures.

The redox potential is 460-mV, which is indicative of aerobic soil conditions.

This corrosivity evaluation is based on general corrosion engineering standards and is non-specific in nature. For specific long-term corrosion control design recommendations or consultation, please *call JDH Corrosion Consultants, Inc. at (925) 927-6630.*

We appreciate the opportunity of working with you on this project. If you have any questions, or if you require further information, please do not hesitate to contact us.

Very truly yours,
CERCO ANALYTICAL, INC.

Sheri Moore
for J. Darby Howard, Jr., P.E.
President

JDH/jdl
Enclosure

California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax: 925 462 2775
www.cercoanalytical.com

Client: Treadwell & Rollo
Client's Project No.: 2766.03
Client's Project Name: 1731 Powell Street, San Francisco
Date Sampled: 8-Oct-08
Date Received: 10-Nov-08
Matrix: Soil
Authorization: Signed Chain of Custody

Date of Report: 25-Nov-2008

Job/Sample No.	Sample I.D.	Redox (mV)	pH	Conductivity (umhos/cm)*	Resistivity (100% Saturation) (ohms-cm)	Sulfide (mg/kg)*	Chloride (mg/kg)*	Sulfate (mg/kg)*
0811055-001	B-3 @ 15'	460	8.3	-	950	-	20	370

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327	ASTM D4327
Detection Limit:	-	-	10	-	50	15	15
Date Analyzed:	21-Nov-2008	21-Nov-2008	-	25-Nov-2008	-	21-Nov-2008	21-Nov-2008

Cheryl McMillen
Laboratory Director

* Results Reported on "As Received" Basis
N.D. - None Detected

Quality Control Summary - All laboratory quality control parameters were found to be within established limits

DISTRIBUTION

4 copies:	Mr. Joel Campos La Cometa Taqueria 2731 Mission Street San Francisco, California 94110
1 copy:	Mr. David McAdams Naylor & Chu, Inc. 1515 Vallejo Street San Francisco, California 94109
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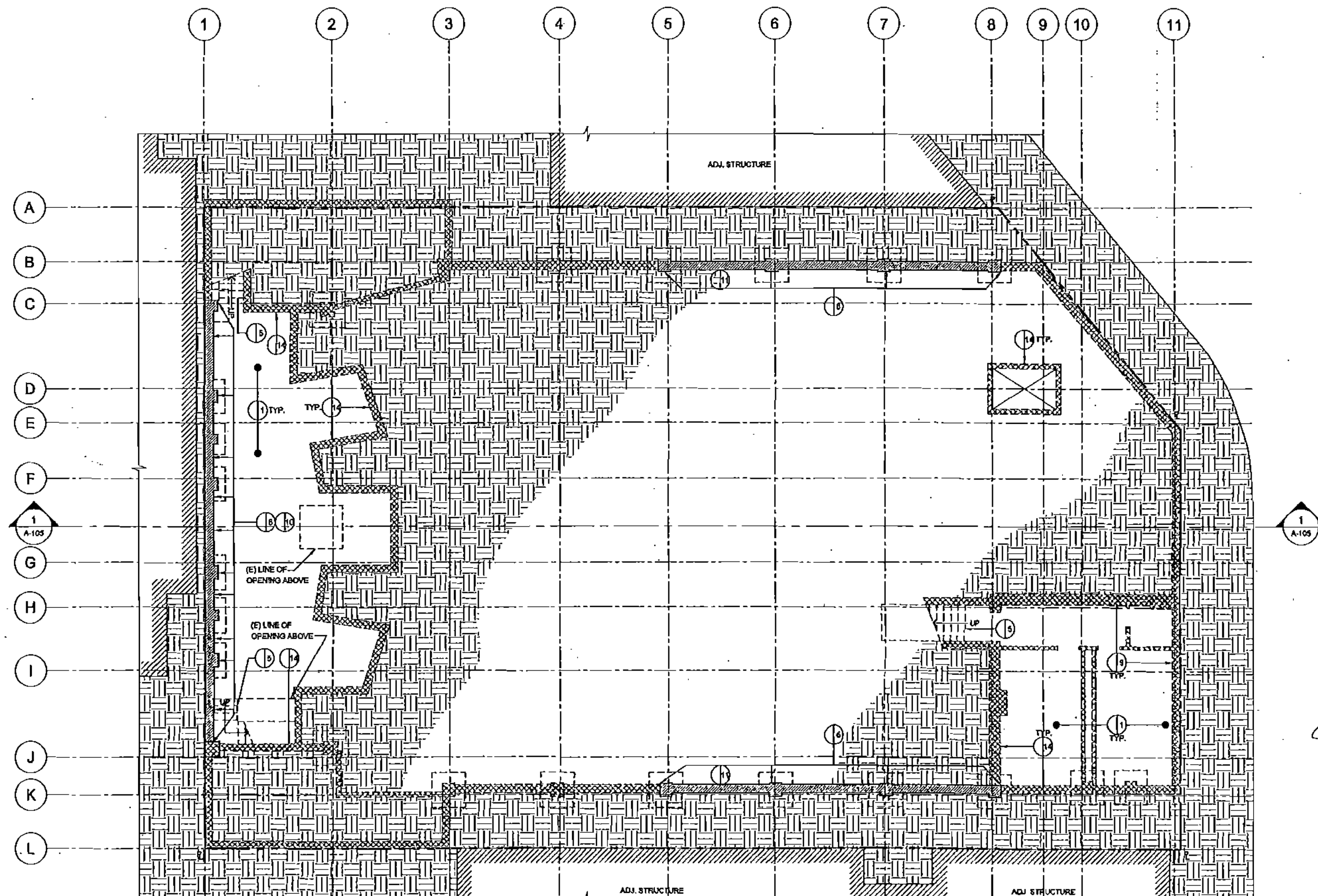
QUALITY CONTROL REVIEWER:

Maria G. Flessas
Principal



APPROVED
PER PLANS AND APPLICATION
11/10/14
PLANNING DEPARTMENT

Route any changes in Building Dimensions, Exterior Materials, Window Location, Size or Materials, or Use to the Planning Department for reapproval.

Janice Hayes, SFFD
JUL 26 2012

SITE PERMIT REVISION
AUG 24 2011

LEGEND

- (E) BRICK WALL/ CONC ENCLOSED STL COLUMNS
- WALLS/ COLUMNS TO BE DEMOLISHED
- BRICK WALLS/ CONC ENCLOSED STL COLUMNS TO REMAIN
- (E) PROPERTY LINE
- (E) NEIGHBORS BUILDINGS, VIF
- SIDEWALK IMPROVEMENT (UNDER SEPERATE PERMITS)

SHEET NOTES

1. REMOVE (E) CONC. SLAB, (E) MTL DECK, (E) FOOTINGS, (E) UTILITY LINES, TYP., U.N.O.
2. REMOVE (E) CONC. ENCLOSED STL COLUMNS OR STL COLUMNS. TYP.
3. REMOVE (E) BRICK INFILL WALL, (E) CONC. WALL, (E) STUD WALL, (E) ROOF, (E) WINDOWS & (E) MTL. STUDS, U.N.O., TYP.
4. REMOVE (E) SIDEWALK (UNDER SEPERATE PERMIT).
5. REMOVE (E) STAIR, (E) LANDING, & (E) STL. COLUMNS.
6. (E) MASONRY WALLS & (E) CONC ENCLOSED STL COLUMNS TO REMAINS.
7. REMOVE (E) UTILITIES (UNDER SEPERATE PERMIT).
8. (E) TRUSSES TO BE MODIFIED AS REQ'D PER STRUCTURAL ENGINEER'S DRAWING.
9. (E) RETAINING WALLS ALONG SOUTH PROPERTY LINE TO BE MODIFIED AS REQ'D, V.I.F.
10. (E) BRICK WALL & CONC ENCLOSED STL COLUMNS ALONG GRID LINE 1 SHALL BE EXAMINED FOR POSSIBLE STRUCTURAL RECONFIGURATION OR MODIFICATION.
11. (E) TEST PIT LOCATION TO BE V.I.F.
12. (E) SECURITY FENCE TO BE REMOVED.
13. (E) SPRINKLER CHECK VALVE & ASSOCIATED LINES TO BE REMOVED, LOCATION SHOWN APPROXIMATE, V.I.F.
14. REMOVE (E) BASEMENT SHORING WALLS & (E) MTL. DECK
15. REFER TO G-053 FOR HISTORIC SIGN REHABILITATION
16. BEAM THAT SUPPORTS (E) MEZZANINE TO BE REMOVED, LOCATION SHOWN APPROXIMATE, V.I.F.
17. (E) MAIN ROOF TO REMOVED.
18. (E) MAIN ROOF SUPPORTED BY MODIFIED TRUSSES ALONG GRID LINES 5,6 AND 7 TO REMAIN DURING CONSTRUCTION.
19. (E) TRUSSES TO BE REMOVED.

SHEET NOTES

1. ALL THE REMAINING ITEMS INDICATED IN THE DEMO DWGS MUST REMAIN PROTECTED, STRUCTURALLY STABLE AND FUNCTION DURING THE DEMOLITION. REPAIR REMAINING DAMAGED ITEMS AS NEEDED
2. PROTECT SHORING WALLS AGAINST NEIGHBORS BUILDINGS AND FOUNDATIONS DURING CONSTRUCTION.
3. GENERAL CONTRACTOR SHALL OBTAIN ALL REQ'D CITY PERMITS PRIOR TO ANY DEMOLITION WORK.
4. GENERAL CONTRACTOR SHALL THOROUGHLY EXAMINE CONDITIONS FOR POTENTIALLY UNDISCOVERED ITEMS.

Holt Hinshaw

RONALD K. TOM, DBI
OCT 20 2011

No. Date	Issues and Revisions	By
	DESIGN/BUILD BID SET	11/2/10
	SITE PERMIT RESUBMITTAL	11/01/10
	SITE PERMIT REVISION (DBI) 1	5/05/11

PROJ N

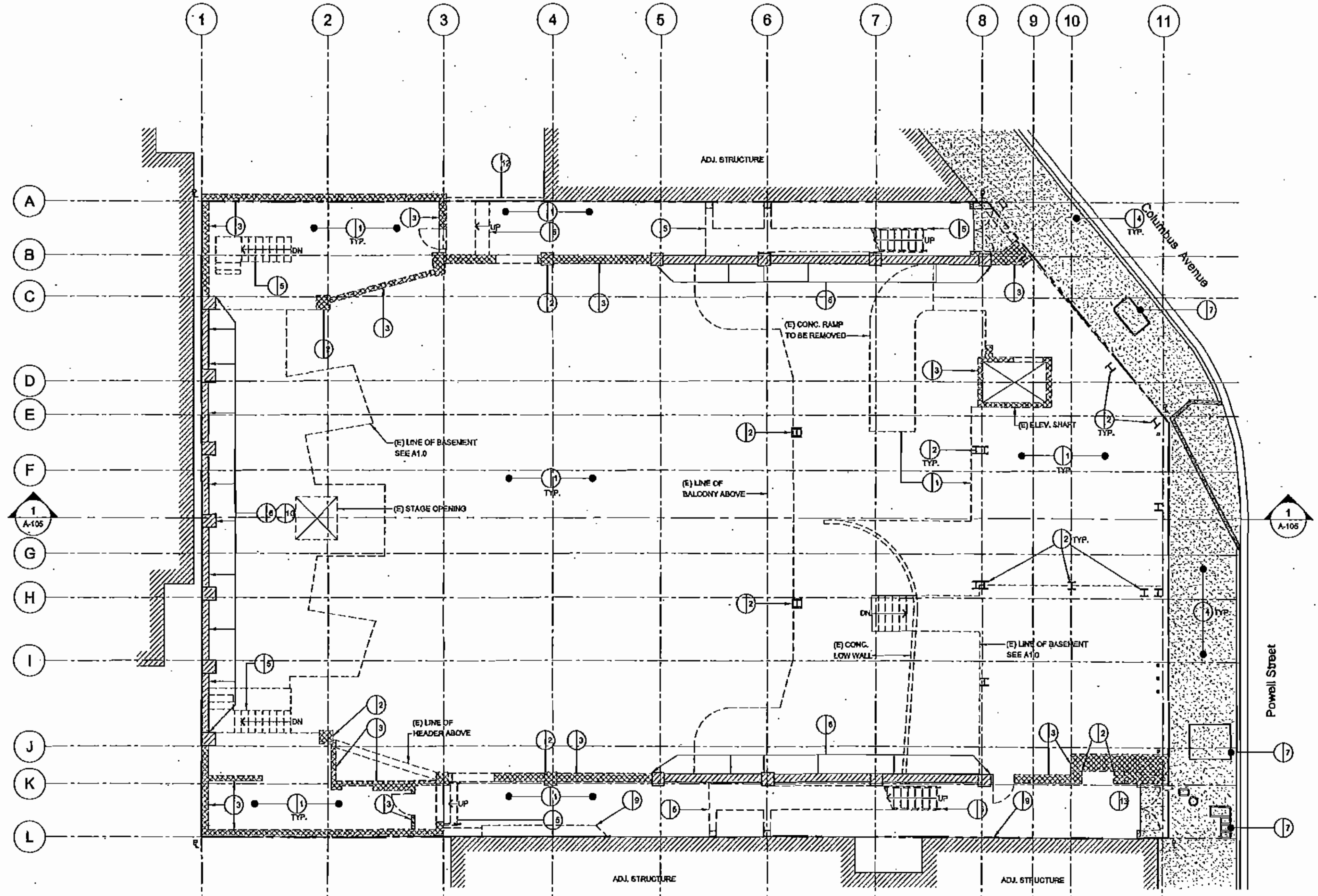
LICENSED ARCHITECT STEPHEN K. WALKER STATE OF CALIFORNIA

Project Name: THE PALACE AT WASHINGTON SQ

1731-1741 Powell Street
San Francisco, CA 94133

Description: BASEMENT DEMO PLAN

Sheet: D-1B1



LEGEND

- (E) BRICK WALL/ CONC ENCLOSED STL COLUMNS
- WALLS/ COLUMNS TO BE DEMOLISHED
- BRICK WALLS/ CONC ENCLOSED STL COLUMNS TO REMAIN
- (E) PROPERTY LINE
- (E) NEIGHBORS BUILDINGS, VIF
- SIDEWALK IMPROVEMENT (UNDER SEPERATE PERMITS)

SHEET NOTES

1. REMOVE (E) CONC. SLAB, (E) MTL DECK, (E) FOOTINGS, (E) UTILITY LINES, TYP., U.N.O.
2. REMOVE (E) CONC. ENCLOSED STL. COLUMNS OR STL. COLUMNS. TYP.
3. REMOVE (E) BRICK INFILL WALL, (E) CONC. WALL, (E) STUD WALL, (E) ROOF, (E) WINDOWS & (E) MTL. STUDS, U.N.O., TYP.
4. REMOVE (E) SIDEWALK (UNDER SEPERATE PERMIT).
5. REMOVE (E) STAIR, (E) LANDING, & (E) STL. COLUMNS.
6. (E) MASONRY WALLS & (E) CONC ENCLOSED STL COLUMNS TO REMAINS.
7. REMOVE (E) UTILITIES (UNDER SEPERATE PERMIT).
8. (E) TRUSSES TO BE MODIFIED AS REQD PER STRUCTURAL ENGINEER'S DRAWING.
9. (E) RETAINING WALLS ALONG SOUTH PROPERTY LINE TO BE MODIFIED AS REQ'D, V.I.F.
10. (E) BRICK WALL & CONC ENCLOSED STL COLUMNS ALONG GRID LINE 1 SHALL BE EXAMINED FOR POSSIBLE STRUCTURAL RECONFIGURATION OR MODIFICATION.
11. (E) TEST PIT LOCATION TO BE V.I.F.
12. (E) SECURITY FENCE TO BE REMOVED.
13. (E) SPRINKLER CHECK VALVE & ASSOCIATED LINES TO BE REMOVED, LOCATION SHOWN APPROXIMATE, V.I.F.
14. REMOVE (E) BASEMENT SHORING WALLS & (E) MTL. DECK
15. REFER TO G-053 FOR HISTORIC SIGN REHABILITATION
16. BEAM THAT SUPPORTS (E) MEZZANINE TO BE REMOVED, LOCATION SHOWN APPROXIMATE, V.I.F.
17. (E) MAIN ROOF TO REMOVED.
18. (E) MAIN ROOF SUPPORTED BY MODIFIED TRUSSES ALONG GRID LINES 5,6 AND 7 TO REMAIN DURING CONSTRUCTION.
19. (E) TRUSSES TO BE REMOVED.

SHEET NOTES

1. ALL THE REMAINING ITEMS INDICATED IN THE DEMO DWGS MUST REMAIN PROTECTED, STRUCTURALLY STABLE AND FUNCTION DURING THE DEMOLITION. REPAIR REMAINING DAMAGED ITEMS AS NEEDED.
2. PROTECT SHORING WALLS AGAINST NEIGHBORS BUILDINGS AND FOUNDATIONS DURING CONSTRUCTION.
3. GENERAL CONTRACTOR SHALL OBTAIN ALL REQ'D CITY PERMITS PRIOR TO ANY DEMOLITION WORK.
4. GENERAL CONTRACTOR SHALL THOROUGHLY EXAMINE CONDITIONS FOR POTENTIALLY UNDISCOVERED ITEMS.

APPROVED PER PLANS AND APPLICATION
PLANNING DEPARTMENT

Route any changes in Building Dimensions, Exterior Materials, Window Location, Size or Materials, or Use to the Planning Department for reapproval.

Janice Hevos, SFFD
JUL 06 2012

SITE PERMIT REVISION
AUG 24 2011

RONALD K. TOM, DBI
OCT 20 2011

Holt Hinshaw

No.	Date	Issues and Revisions	By
	DESIGN/BUILD BID SET		11/2/10
	SITE PERMIT RESUBMITTAL		11/3/10
	SITE PERMIT REVISION (DBI) ⚠1		6/6/11

PROJ N N

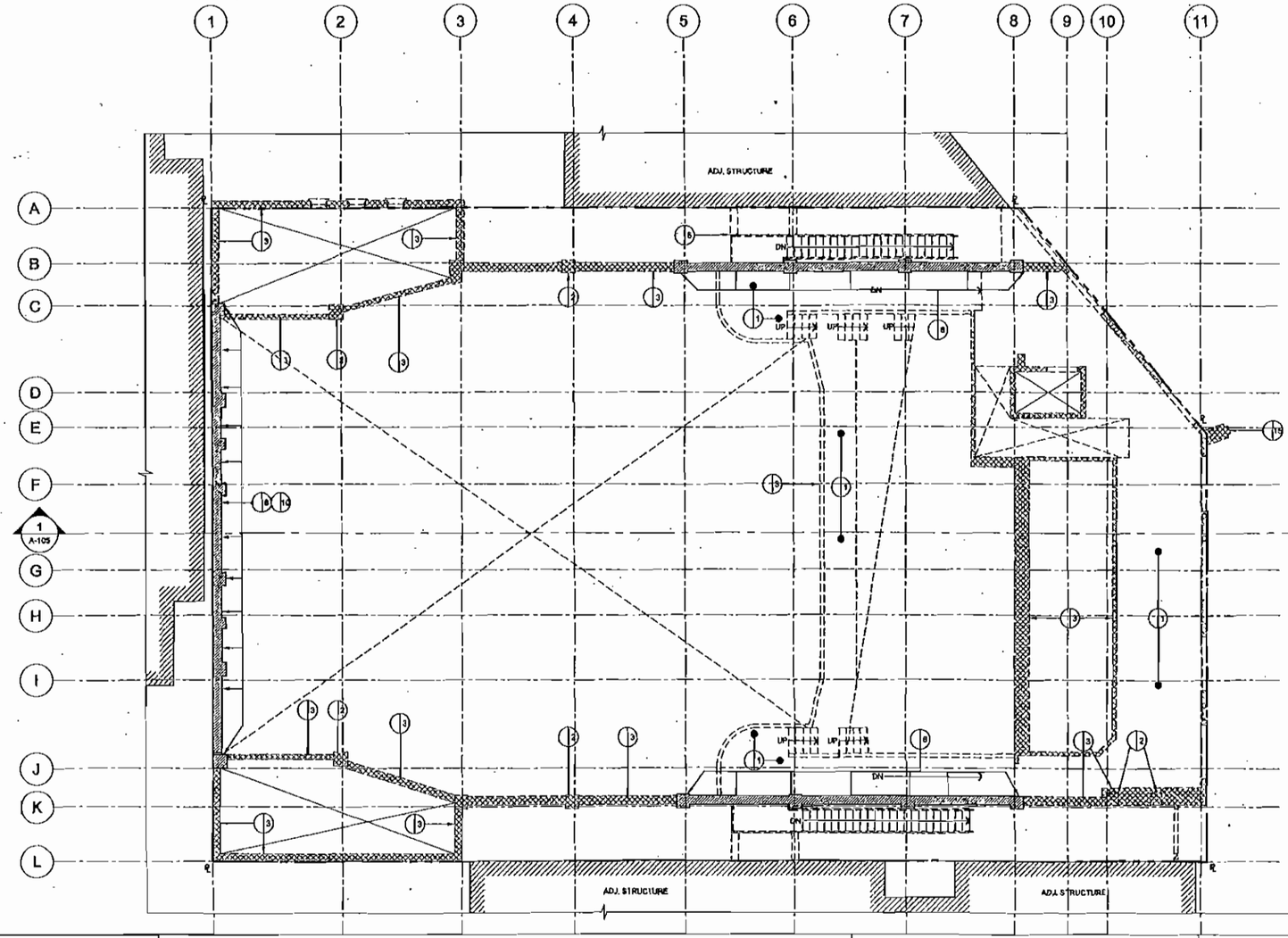
LICENSED ARCHITECT STEPHEN R. WALKER STATE OF CALIFORNIA

THE PALACE AT WASHINGTON SQ

1731-1741 Powell Street
San Francisco, CA 94133

Ground Level Demo Plan

Sheet
D-101



LEGEND

- (E) BRICK WALL/ CONC ENCLOSED STL COLUMNS
- WALLS/ COLUMNS TO BE DEMOLISHED
- BRICK WALLS/ CONC ENCLOSED STL COLUMNS TO REMAIN
- (E) PROPERTY LINE
- (E) NEIGHBORS BUILDINGS, V.I.F.
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SHEET NOTES

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SHEET NOTES

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APPROVED
PER PLANS AND APPLICATION
11/10/11
PLANNING DEPARTMENT
Route any changes in Building Dimensions, Exterior Materials, Window Location, Size or Materials, or Use to the Planning Department for reapproval.

RONALD K. TOM, DBI
OCT 20 2011

SITE PERMIT REVISION
AUG 24 2011

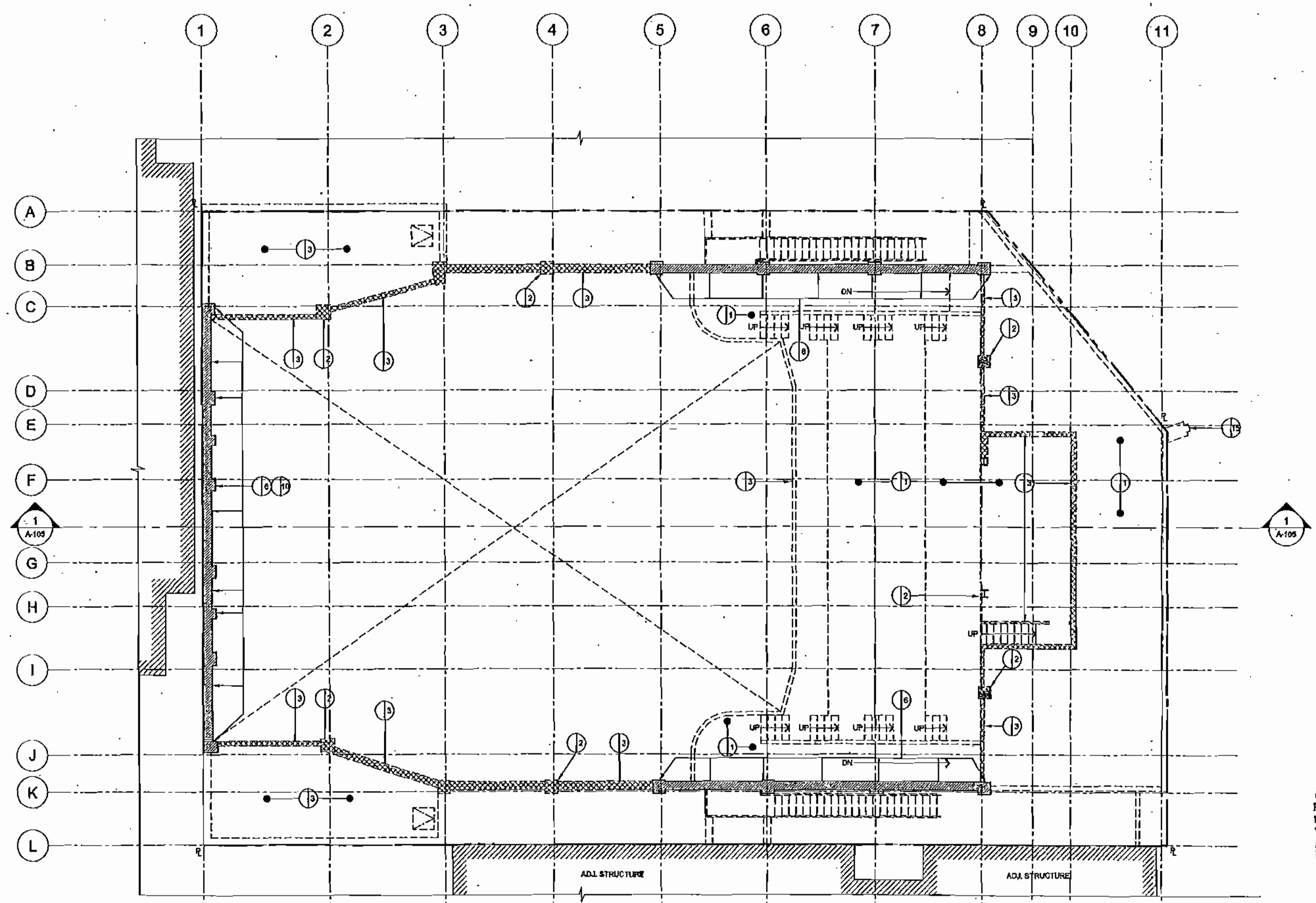
Holt Hinshaw

No.	Date	Issues and Revisions	By
		DESIGN/BUILD BID SET	11/07/10
		SITE PERMIT RESUBMITTAL	11/01/11
		SITE PERMIT REVISION (DBI) 1	9/05/11

LICENSED ARCHITECT
KENNETH R. WALKER
No. C-30261
REN. 12/31/11
STATE OF CALIFORNIA

THE PALACE AT WASHINGTON SQ
1731-1741 Powell Street
San Francisco, CA 94133
SECOND FLOOR DEMO PLAN

D-102



APPROVED
PER PLANS AND APPLICATION 11/10/11
PLANNING DEPARTMENT

Route any changes in Building Dimensions, Exterior Materials, Window Location, Size or Materials, or Use to the Planning Department for reapproval.

RONALD K. TOM, DBI
OCT 20 2011

SITE PERMIT REVISION
AUG 24 2011

LEGEND

- (E) BRICK WALL/ CONC ENCLOSED STL COLUMNS
- WALLS/ COLUMNS TO BE DEMOLISHED
- BRICK WALLS/ CONC ENCLOSED STL COLUMNS TO REMAIN
- (E) PROPERTY LINE
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- SIDEWALK IMPROVEMENT (UNDER SEPERATE PERMITS)

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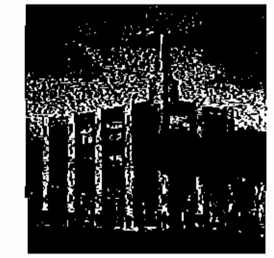


Holt Hinshaw

DESIGN/BUILD BID SET		1/12/10
SITE PERMIT RESUBMITTAL		11/01/10
SITE PERMIT REVISION (DBI)	1	8/05/11

PROJ N

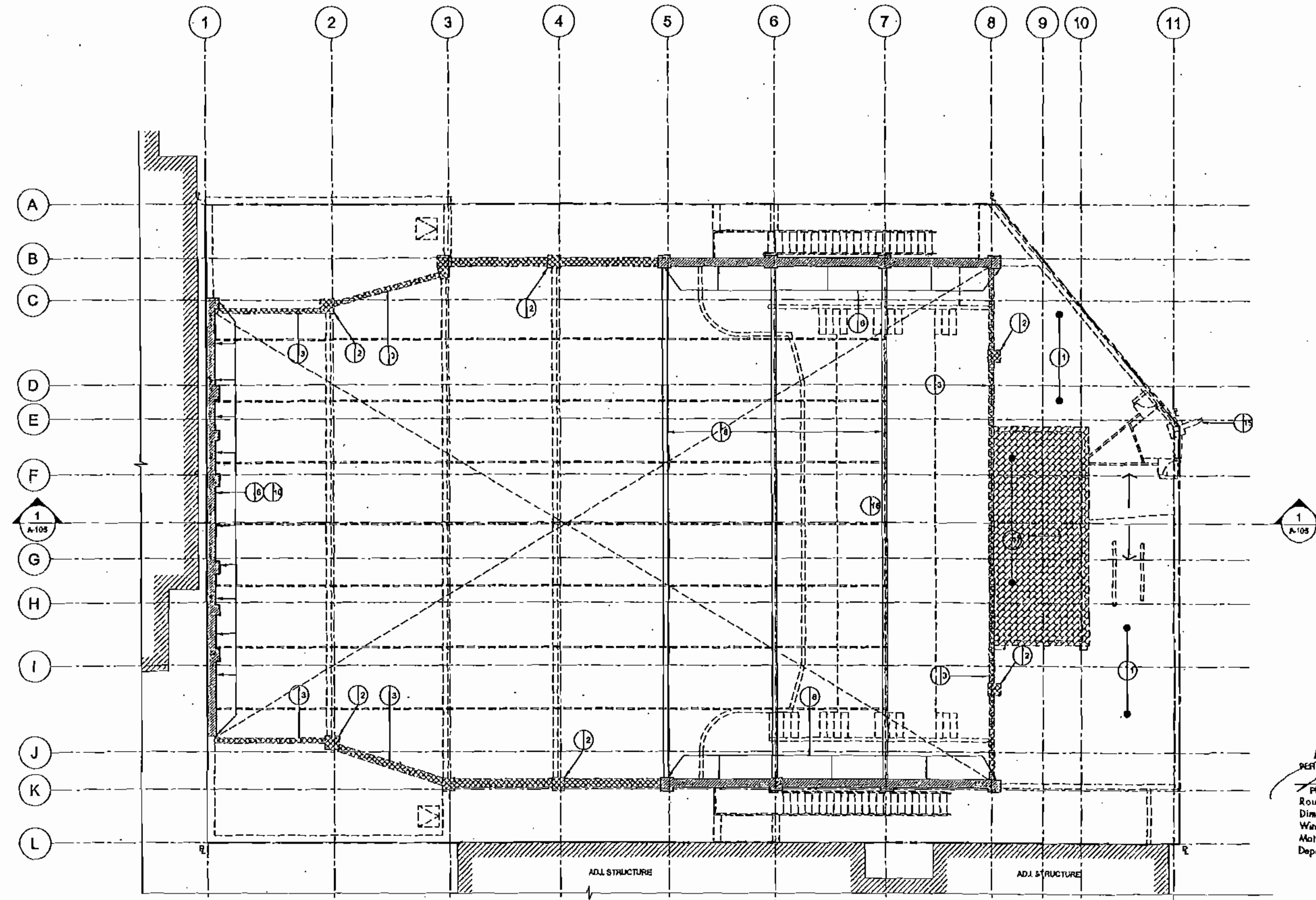
LICENSED ARCHITECT STEPHEN R. WALKER No. C-30261 REN. 7/31/11 STATE OF CALIFORNIA

THE PALACE AT WASHINGTON SQ

1731-1741 Powell Street
San Francisco, CA 94133

THIRD FLOOR DEMO PLAN

D-103



APPROVED
PER PLANS AND APPLICATION
PLANNING DEPARTMENT
Route any changes in Building Dimensions, Exterior Materials, Window Location, Size or Materials, or Use to the Planning Department for reapproval

LEGEND

- (E) BRICK WALL/ CONC ENCLOSED STL COLUMNS
- WALLS/ COLUMNS TO BE DEMOLISHED
- BRICK WALLS/ CONC ENCLOSED STL COLUMNS TO REMAIN
- (E) PROPERTY LINE
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SITE PERMIT REVISION
AUG 2 4 2011

Holt Hinshaw

RONALD K. TOM, DBI
OCT 2 0 2011

DESIGN/BUILD BID SET	[illegible]
SITE PERMIT RESUBMITTAL	[illegible]
SITE PERMIT REVISION (DBI) △1	[illegible]

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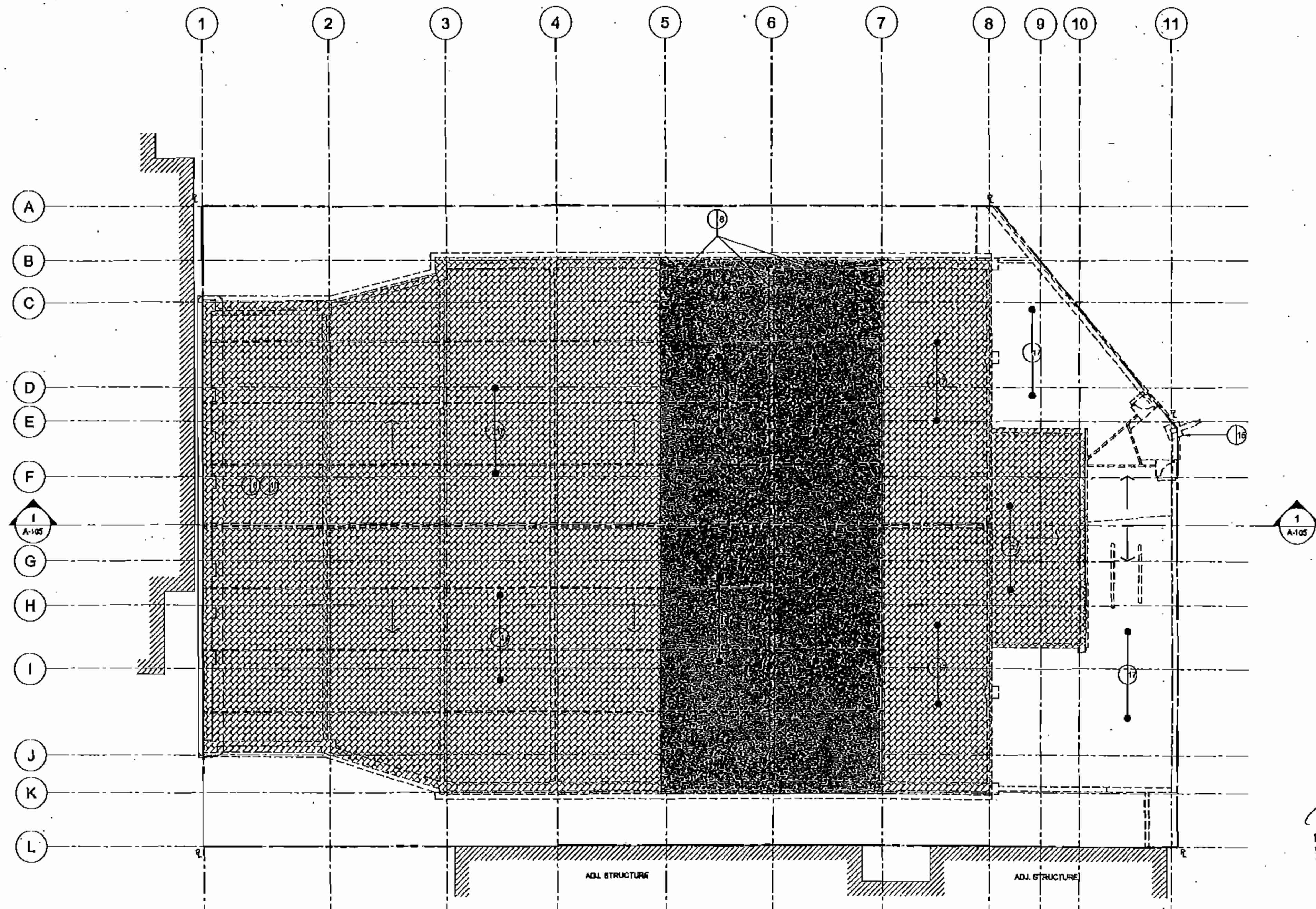
STEPHEN R. WALKER · LICENSED ARCHITECT · STATE OF CALIFORNIA

THE PALACE AT WASHINGTON SQ
1731-1741 Powell Street
San Francisco, CA 94133

FOURTH FLOOR DEMO PLAN

D-104 △



APPROVED
PER PLANS AND APPLICATION
11/10/11
PLANNING DEPARTMENT
Route any changes in Building Dimensions, Exterior Materials, Window Location, Size or Materials, or Use to the Planning Department for reapproval.

LEGEND

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JUL 06 2012

SITE PERMIT REVISION
AUG 24 2011

San Francisco
415 836 5800 Voice
415 836 5849 Fax
220 Florida Street
Third Floor
CA 94110
www.holthinshaw.com
Holt Hinshaw

RONALD K. TOM, DBI
OCT 20 2011

No.	Date	Issues and Revisions	By
		DESIGN/BUILD BID SET	11/3/10
		SITE PERMIT RESUBMITTAL	11/31/10
		SITE PERMIT REVISION (OBP)	5/05/11

PROJ N
N

LICENSED ARCHITECT
STEPHEN R. WALKER
No. C-30261
REN. 7/31/11
STATE OF CALIFORNIA

Project Name
THE PALACE AT WASHINGTON SQ
1731-1741 Powell Street
San Francisco, CA 94133
Description
ROOF PLAN DEMO PLAN

D-105

Hott Hinshaw

RONALD K. TOM, DBI
OCT 20 2011

No.	Date	Issues and Submissions	By
		DESIGN-BUILD RFI SET	11/2010
		SITE PERMIT RESUBMITTAL	1/12/2011
1		SITE PERMIT REVISION (SPR)	8/2011

PROJ N N

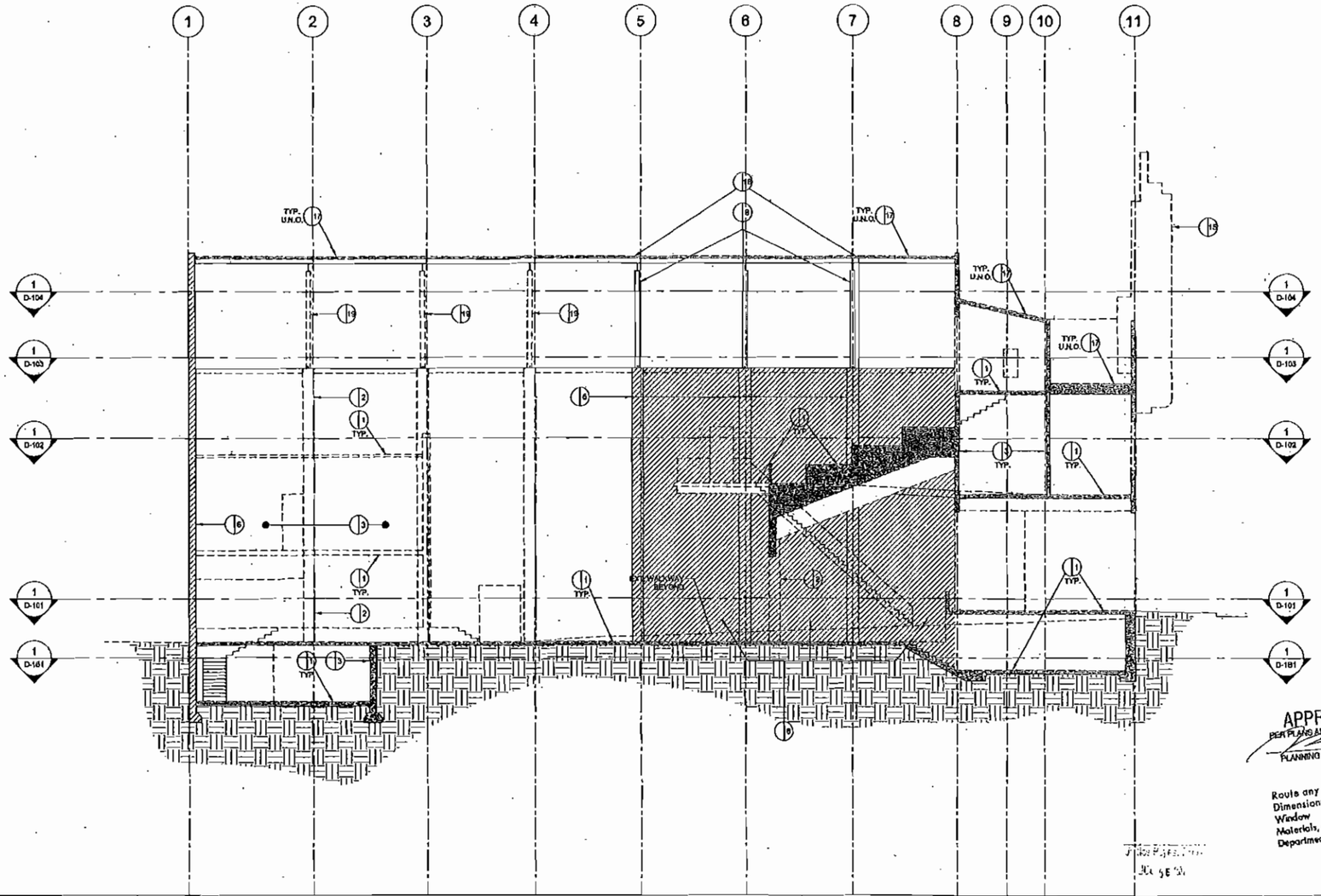
LICENSED ARCHITECT STEPHEN R. WALKER No. C-25281 REN. 7/31/11 STATE OF CALIFORNIA

THE PALACE AT WASHINGTON SQ

1731-1741 Powell Street
San Francisco, CA 94133

EXISTING BUILDING SECTION/ DEMO

D-106



APPROVED
PER PLANS AND APPLICATION
11/10/11
PLANNING DEPARTMENT

Route any changes in Building Dimensions, Exterior Materials, Window Location, Size or Materials, or Use to the Planning Department for reapproval.

SITE PERMIT REVISION
AUG 24 2011

LEGEND

- (E) BRICK WALL/ CONC ENCLOSED STL COLUMNS
- WALLS/ COLUMNS TO BE DEMOLISHED
- BRICK WALLS/ CONC ENCLOSED STL COLUMNS TO REMAIN
- (E) PROPERTY LINE
- (E) NEIGHBORS BUILDINGS, YP
- SIDEWALK IMPROVEMENT (UNDER SEPERATE PERMITS)

SHEET NOTES

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the Central Subway Project (Chinatown and South of Market). A list of CBOs may be obtained from SFMTA. These positions may be considered temporary (lasting for the term of the Project), but during the period of their employment, persons in these positions shall be provided any benefits to which that they may be entitled under State labor laws. Contractor shall hire no less than 30 individuals into these positions. These positions shall be separate and distinct from participants in the SP-21 Construction Management Trainee Program. Allowance amounts expended in support of job-readiness programs shall only be for such programs engaged in job-readiness training for these positions.

b. The Allowance established for this Allowance Item is the sum of the corresponding Bid Prices Breakdown UMS AL-12, CTS AL-12, YBM AL-12, and STS AL-12 Items in Articles 1.06 through 1.09.

c. Estimates for progress payment purposes will be made under the applicable UMS AL-12, CTS AL-12, YBM AL-12 and STS AL-12 Items in Articles 1.06 through 1.09.

13. **ALLOWANCE ITEM 13 – UNFORESEEN OR DIFFERING CONDITIONS ALLOWANCE FOR OBSTRUCTIONS ENCOUNTERED** ADD. NO. 1

a. An allowance has been established for obstructions encountered that are unforeseen or differing conditions as described in General Provisions GP-3.04 Unforeseen or Differing Conditions, Sub-Articles A.2 and A.3, as approved by the Engineer. This Allowance is applicable to the UMS-1253, CTS-1254R, YBM-1255, and STS-1256 packages.

b. The Allowance established for this Allowance Item is the sum of the corresponding Bid Prices Breakdown UMS AL-13, CTS AL-13, YBM AL-13, and STS-13 Items in Articles 1.06 through 1.09.

c. Estimates for progress payment purposes will be made under the applicable UMS AL-13, CTS AL-13, YBM AL-13, and STS-13 Items, in Articles 1.06 through 1.09.

d. Payment shall not be made for: ADD. NO. 3

1) Items described in General Provisions GP-3.04 Unforeseen or Differing Conditions, Sub-Articles C.1 through C.4. Items included in Sub-Articles C.1 through C.4 are not considered differing site conditions, and shall be incidental to the Work.

~~1)~~2) Any known or unknown abandoned utility facility. Known or unknown abandoned utility facilities encountered are

considered normal to the Work and are not considered a differing site condition, and shall be incidental to the Work.

C. Additional SEM Toolbox Support (Additional SEM Support Measures)

The following SEM Toolbox support measures apply to the CTS-1254R package Work:

1. **SEM Toolbox Item 1 - Additional Rebar Spiles (EA) - (CTS-1254R)**

   a. The Unit Price for Additional Rebar Spiles (each piece) shall be full payment for the cost of Work and Materials necessary for approved quantity of rebar spiles installed above the Contract indicated Standard SEM Support Measures quantity, or an approved Contractor's Standard SEM Support Measures Quantity (in the event the Contractor proposes and has approved an alternate support system).

   b. The Unit Price for this Bid Item shall cover the actual direct cost to the Contractor for Work as directed and approved by the Engineer, including labor, Materials, equipment, on-site and off-site storage and security, delivery, loading and unloading, handling, and installation at the Site as applicable, plus required taxes and fees, and other direct expenses incurred associated with performing the Work.

   c. The quantity indicated for this additional SEM toolbox Bid Item is an estimated quantity, and is not subject to the variation of quantities clause of the Contract, Article 9.04 of the General Provisions.

   d. Estimates for progress payment purposes will be made based on the quantity of Work as directed and approved by the Engineer.

   e. Estimates for progress payment purposes will be made under the Bid Prices Breakdown Bid Item TB-1 in Article 1.07. ADD. NO. 1

2. **SEM Toolbox Item 2-Additional Grouted Pipe Spiles (EA) - (CTS-1254R)**

   a. The Unit Price for Additional Grouted Pipe Spiles (each piece) shall be full payment for the cost of Work and Materials necessary for the approved quantity of grouted pipe spiles installed above the Contract indicated Standard SEM Support Measures quantity, or an approved Contractor's Standard SEM Support Measures Quantity.

   b. The Unit Price for this Bid Item shall cover the actual direct cost to the Contractor for Work as directed and approved by the Engineer, including labor, Materials, equipment, on-site and off-site storage and security, delivery, loading and unloading, handling and installation at the Site as applicable, plus required

CENTRAL SUBWAY PROJECT

Project Trend/Change Control Log

Trend Log

Projected Trends versus Current Cost Estimate and Allocated Contingencies

Item #	Date Initiated		Change Description	Change Type	CMB No.	Status		Projected Cost Impact +Exposure/(Benefit)		Comments	Modification Number	Completed by Project Controls Manager per Completed Change Form	
						Action	Date	Actual/Forecast	Potential Change			Verifier Name	Date
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)		Status of ROCA? Cleared City Attorney's Office; to Shahnam for execution. [n "Current Forecast" - Sep2010 Cost Report.] **COMPLETE, NO FURTHER ACTION; CMOD #1**	**CMOD #1 Approved**	**JB**	**04/20/10**
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 ductbank. 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 ductbank 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 ductbank 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**		
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**		

1 - Owner Directed Change in Scope
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CENTRAL SUBWAY PROJECT

Project Trend/Change Control Log

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1250-0010	10/06/10	081-0010	Perform AT&T wye cast connection and chipping of existing ductbank 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 ductbank. This will cause additional excavation, joint trench and modification to existing ductbank. 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	+67,798		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. **COMPLETE, NO FURTHER ACTION; CMOD #21**	**CMOD #21**		
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	+30,547		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. **COMPLETE, NO FURTHER ACTION; CMOD #21**	**CMOD #21**		
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				+290,703		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. **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. CM awaiting cost proposal from Contractor. 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					+6,400	CM reviewing COR for merit. 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					+25,000	CM reviewing COR for merit. 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				-0-		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**			
1250-0020	10/06/10	081-0020	Sewer modification under I-80 freeway at 2 locations	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	Install new AWSS lateral including hydrant at NW 4th/Harrison	2					+100,000	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.**			

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Project Trend/Change Control Log

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						Action	Date	Actual/Forecast	Potential Change			Verifier Name	Date
1250-0022	10/06/10	081-0022	Install additional 30 feet of DIP and new AWSS at 4th/Harrison	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	Steel plates and shoring standby for 2 months due to PG&E delay at Clementina	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	Utility support and work around for AT&T facilities	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**		
1250-0025	10/06/10	081-0025	Utility support and work around for PG&E facilities	6					+182,980	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	Utility support and work around for SFWD facilities	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 #14 Approved**		
1250-0027	10/06/10	081-0027	Trucking and labor support for Archaeological mitigation	2				+115,789		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**	**CMOD #20**		
1250-0028	12/08/10	081-0028	Trucking and labor support for Archaeological mitigation, Part II	2				+50,000		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 #20**	**CMOD #20**		
1250-0029	12/08/10	081-0029	Cost overrun for bid item UD-10 "Additional excavation and backfill"	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**		
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					(38,048)	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					(50,807)	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**			

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.	Status		Projected Cost Impact +Exposure/(Benefit)		Comments	Modification Number	Completed by Project Controls Manager per Completed Change Form	
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1250-0033	12/08/10	081-0033	Unused allowance for bid item UD-6 "Transportation of Class I Hazardous Waste"	4					(76,210)	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**	**SS**	**05/04/11**
1250-0035	12/08/10	081-0035	Premium cost for requesting contractor to accelerate work on 4th Street between Howard and Folsom	2				+35,000		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. **COMPLETE, NO FURTHER ACTION; CMOD #20**	**CMOD #20**		
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	+450,867		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); Addl Work as Result of Archeological Shutdown (3 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**	**CMOD #20**		
1250-0037	12/08/10	081-0037	Compensation for loss of production, inefficiency and disruption of work due to archaeological discovery	2				+100,000		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; CMOD #20**	**CMOD #20**		
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 ductbank 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. Subsequentially, 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**		

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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				(203,548)	(203,548)	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 #22**	CMOD #22		
Contract 1250 Totals								**+3,180,500**	**(54,233)**	**Of the total cost exposure shown, changes have been absorbed by allocated contingency in the amount of $2,860,848. Final Contract Closeout Total $11,968,150**			
Contract 1251 - Utilities Relocation #2 (UMS)													
1251-0001	03/18/11	082-0001	Modify traffic control plan by establishing a single travel lane on Stockton St. in lieu of time-based multiple lane requirements as stipulated in contract plans TR-001 to 004.	7				-0-		After discussions with the Contractor and the Union Square Business Improvement District (BID), the SFMTA determined that modifying the lane requirements along Stockton St. and implementing the alternate pedestrian walkway design would be beneficial to the execution of CN 1251 in the following ways: increased public safety, increase construction production, and create a more pleasing environment to the public and merchant. COR #1	CMOD #4 Approved		
1251-0002	03/18/11	082-0002	Installation of reinforced concrete slab underneath Joint Trench along Stockton at O'Farrell (East Side). CTL 133+66.37 (27.08 LEFT) to CTL 134+00.87 (27.08 LEFT	1&3	CMB-0035	Agree	04/20/11	+67,634		Pursuant to a commitment between Barney's and SFMTA, Emergency Stair #4 (to be constructed in CN 1253) must avoid existing subsidewalk basement. It was determined that moving the conflicting stairs would require the Joint Trench to be constructed in a manner that would enable it to span the excavated area. The addition of the invert slab allowed for the needed span thereby allowing for a relocation of Emergency Stair #4. COR #4; PCC #1 **COMPLETE, NO FURTHER ACTION; CMOD #2**	CMOD #2 Approved		
1251-0003	03/18/11	082-0003	Adjust placement of 3EA manholes along Geary Street and O'Farrell Street. The modified manhole locations require the installation of approximately 265LF of additional HDPE pipe inside the existing 3'x5' brick sewer.	1	CMB-0029	Agree	02/23/11	+148,919		During future station construction, the design team anticipates that excavation related settlement may cause damage to the brick sewers along Geary and O'Farrell Streets. This proposed modification will replace the vulnerable brick sewer within the influence zone with HDPE pipe that will not be as susceptible to settlement-induced damage. COR #9, PCC #2 **COMPLETE, NO FURTHER ACTION; CMOD #1**	CMOD #1 Approved	JH	6/9/2011
1251-0004	04/06/11	082-0004	Changes to Neiman Marcus secondary enclosure wall due to various differing site conditions.	2	CMB-0031	Agree	04/13/11	+189,584		Due to various differing site conditions as described in RFIs 15, 37, 38 and 44, changes to the secondary enclosure wall are required. The existing footing were found to be inconsistent, i.e. missing footing in one area, footing sticks out beyond existing wall, overpour on existing footing, existing wall to be 6" into private property. Contract plan SR-302 shows a consistent footing. COR #8 **COMPLETE, NO FURTHER ACTION; CMOD #3**	CMOD #3 Approved	SS	10/5/2011

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1251-0005	04/06/11	082-0005	Existing PG&E conduits were found on top and parallel to existing AWSS on Geary Blvd. at 2 locations (east and west of Stockton)	6				+127,892		Contract plans AW-501.1, 501.2, 501.4 and 501.4 show the existing AWSS to be replaced in place. However, existing PG&E conduits were found to be on top and parallel to the existing AWSS resulting in extra work in working around and/or shifting the existing electrical conduits. Contract plans JT-308 and 309 showed the existing electrical and AWSS to be separate. Estimate includes $77,892.53 (Synergy FA Request) + $25,000 (first digging west side) + $10,000 (temp backfill during moratorium) + $15,000 (plate rental west side at $5k per month). Estimate does not include Synergy's cost to resequence his work. Updated projected cost impact from $50,000 to $127,893 based on compilation of force accounts received. RE is awaiting COR Cost proposal COMPLETE, NO FURTHER ACTION	CMOD #24		1/2/2013
1251-0006	04/20/11	082-0006	Design changes to utilities on Stockton street between Post and Geary	1	CMB-0039	Agree	06/08/11	+398,624		Due to changes to the limits of the UMS Station on Stockton Street between Post and Geary, the original utility design has changed. COR #24, PCC #4 **COMPLETE, NO FURTHER ACTION; CMOD #5**	CMOD #5 Approved	SS	
1251-0007	04/20/11	082-0007	Design changes to utilities on Ellis Street	1	CMB-0049	Agree	08/24/11	(434,957)		Due to changes to the limits of the UMS Station on Ellis street, the original utility design has changed. RE has not determined cost impact. PCC #5 **COMPLETE, NO FURTHER ACTION; CMOD #5**	CMOD #5 Approved	SS	
1251-0008	04/20/11	082-0008	Elimination of underpinning at 150 Stockton	1						Based on field verification, it was determined that underpinning is no longer needed. Contract bid item SR-9 is for a total amount of $116,000 measured by LF. However, CM team does not anticipate to recover the full amount because contractor may be entitled to retain general conditions cost and some excavation cost that was already performed but encumbered in Bid Item SR-9. Agreed credit of ($58,000) to be included in Trend #60. **CLOSED, NO FURTHER ACTION**			
1251-0009	04/20/11	082-0009	Additional cost for police officers and/or Parking Control Officers for traffic control.	4	CMB-0038	Agree	06/01/11	+261,584		Contract bid item TR-7 for manual traffic control in the amount of $120,000 is insufficient to control traffic for the duration of the contract. The $120,000 allowance only equates to one police officer for a duration of 7.5 months. At a minimum, it is anticipated that one police officer or PCO will be needed at Stockton/Post for the entire contract duration of 16 months. Additionally, one PCO is required for each intersection at Geary/Stockton and O'Farrell/Stockton. **COMPLETE, NO FURTHER ACTION; CMOD #4**	CMOD #4 Approved		
1251-0010	05/25/11	082-0010	Accelerate Stockton east between O'Farrell and Market	1				+27,409		Contractor needed to rent additional excavators to work concurrently with the other block on Stockton between O'Farrell and Market. Amount: $27,409; COR #25 **COMPLETE, NO FURTHER ACTION; CMOD #3**	CMOD #3 Approved	SS	10/5/2011
1251-0011	06/22/11	082-0011	Potholing at 4th/Howard for PUC sewer design	1						Request from MOS utility design team to pothole for the intercept of a 36" force main sewer and 96" sewer. PUC requested that this be done in order to ensure that we have accurate utility information to avoid costly change orders during construction. COR #50, PCC #6 **CLOSED, NO FURTHER ACTION: Per direction from CMB on January 18, 2012, this request is denied.**			
1251-0012	07/06/11	082-0012	Additional cost to lower the AWSS at O'Farrell, east of Stockton, due to numerous existing utility conflicts.	2	CMB-0042, CMB-0050	Agree	8/3/2011, 9/21/2011	+278,351		The AWSS is in conflict with AT&T, PG&E and several other utilities and needs to be installed under all these utilities at about 11' deep (instead of 6' depth as noted in Plan AW-501.4, sheet note #5). During negotiations with the Contractor several items of work were found to be missing for the original cost estimates which increase the amount to $278,351. RFI #76, COR #31 **COMPLETE, NO FURTHER ACTION; CMOD #6**	CMOD #6 Approved	SS	
1251-0013	07/06/11	082-0013	Accelerate start of construction in front of Macys West by trenchless construction method	7				-0-		Micropile installation on Stockton east between O'Farrell and Market has proven to be much slower than anticipated. To mitigate this potential delay, contractor requested to start construction in front of Macys West. This is a no cost change order. COR 32 **COMPLETE, NO FURTHER ACTION; CMOD #3**	CMOD #3 Approved	SS	10/5/2011

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1251-0014	07/21/11	082-0014	Increase in Bid Item WD-10, Allowance for Additional Excavation and Backfill.	3	CMB-0055	Agree	09/14/11	+191,779		This allowance is for the contractor to perform additional excavation, backfilling and restoration associated with the water tie-ins and capping for the distribution piping system. The contractor has performed two water service tie-ins at an average cost of $14,000 per tie-in. The current number of tie-ins and capping is 35 separate points. This amounts to a total cost of $490,000. The current contract allowance amount is $100,000, therefore an additional $390,000 will be needed to augment is bid item. CMB made a partial approve of up to $200K. The initial Contract Modification to supplement this allowance is in the amount of $191,778.62. **COMPLETE, NO FURTHER ACTION; CMOD #9**	**CMOD #9 Approved**	**SS**	
1251-0015	08/03/11	082-0015	Additional traffic signal work at Post/Stockton	1				+17,530		Modification of the traffic signal at Post/Stockton is required to implement the detour shown in contract plan TR-010. There are no bid item to bill this work. COR #19 **COMPLETE, NO FURTHER ACTION; CMOD #8**	**CMOD #8 Approved**	**SS**	
1251-0016	08/03/11	082-0016	Additional traffic signal work at Sutter/Mason	2				+32,054		Existing conduits shown in Plan ET-101 differs from what is actually in the field. City's response to RFI 73 directs contractor to install new conduits and conductors. RFI #73; COR #33 **COMPLETE, NO FURTHER ACTION; CMOD #8**	**CMOD #8 Approved**	**SS**	
1251-0017	08/03/11	082-0017	Furnish and install AT&T Manhole 5830 on O'Farrell Street	6	CMB-0051	Agree	09/21/11	+25,000		AT&T was supposed to hire its own subcontractor to furnish and install all AT&T vaults in CN 1251. AT&T requested SFMTA for Synergy to perform this work as change order to CN 1251. **AT&T agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #7**	**CMOD #7 Approved**	**SS**	
1251-0018	08/03/11	082-0018	Furnish and install AT&T Manhole 5829 on Geary Blvd.	6	CMB-0051	Agree	09/21/11	+31,000		AT&T was supposed to hire its own subcontractor to furnish and install all AT&T vaults in CN 1251. AT&T requested SFMTA for Synergy to perform this work as change order to CN 1251. **AT&T agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #7**	**CMOD #7 Approved**	**SS**	
1251-0019	08/03/11	082-0019	Extend joint trench and modify existing AT&T Manhole 403 on Ellis Street.	6	CMB-0057	Agree	10/26/11	+31,000		AT&T was supposed to furnish and install AT&T vault #5833 on Ellis Street. The current design was to intercept the existing AT&T conduit in the middle of Ellis Street. It was discovered that the existing AT&T conduit actually run adjacent to the southern curb line along Ellis Street. Therefore, AT&T requested SFMTA for Synergy to extend the joint trench approximately 200 feet to the West and tie into their existing AT&T vault #403. This work will also require Synergy to enlarge vault #403 to accept the additional conduit. **This additional work for AT&T will need to be reimbursed to SFMTA through the Form B process.** Note: The agreed amount ($31,000.00) is for enlargement of vault #403 only; the additional 200 feet of trench to be captured in the JT bid items. (See Trend 60) COR #43 **COMPLETE, NO FURTHER ACTION; CMOD #11**	**CMOD #11 Approved**		
1251-0020	09/07/11	082-0020	Change PG&E conduit material from PVC to GRS on west side of Stockton between Geary and Post	6	CMB-0058	Agree	11/02/11	+21,410		PG&E requested to use GRS material in lieu of PVC in areas where PG&E conduits were expected to be exposed and temporary supported during future UMS station construction. **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #21**	**CMOD #21**		**1/2/2013**
1251-0021	09/07/11	082-0021	Revise PG&E service points and layout of primary lines at various locations, and delete Muni Vault 1850 A at Stockton/Ellis.	6						PG&E made changes to the locations of the service points and layout of some of the primary lines. In addition, due to changes to the limits of the UMS Station on Ellis Street, it was determined that Muni Vault 1850A is no longer needed. Cost for this trend in captured in Trend #31 or CMod #12. **CLOSED; NO FURTHER ACTION. Cost for this trend is captured in Trend #31/CMod #12**			
1251-0022	09/07/11	082-0022	Change OCS supports at SF Hilton Hotel on Mason Street from embedded eyebolts to poles w/foundations.	7						During the design phase the representatives of the Hilton Hotel agreed to and signed a license agreement with the SFMTA to allow embedded eyebolt supports. Hilton's Dir of Property Ops now wants to have OCS poles rather than the embedded building eyebolt supports. However, the OCS designer was able to revise the OCS design to eliminate the need for either eyebolts or poles in front of Hilton Hotel, resulting in a $2,000 credit. **CLOSED; NO FURTHER ACTION. Applicable bid items to be adjusted accordingly, See Trend #60.**			

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1251-0023	09/07/11	082-0023	4th Street & Folsom Trolley Bypass	1	CMB-0065	Agree	1/25/2012, 2/29/12	+405,440		SFMTA Operations has requested a bypass be installed at 4th Street and Folsom Street. $242,619 in labor costs for OCS installation has not been negotiated yet. 1/25: Condition agreed upon verification material from Contractor to be procured is available. (Verified 02/01/12). 02/29: CMod negotiated cost has been revised to incorporate original three items and the add'l OCS work on Folsom St. COR #52; PCC #7 **Updated projected cost impact from $490,000 to $405,440. CMod #12 (Formally CMod #15)** **COMPLETE, NO FURTHER ACTION; CMOD #12**	**CMOD #12 Approved**	**MAB**	**03/28/12**
1251-0024	09/07/11	082-0024	Install a 5" slurry wall between the gas line and wet utilities if the separation is less than 3 feet	6	CMB-0059	Agree	11/16/2011, 05/02/12	+204,610		As a new requirement, PG&E had requested that a 5" slurry wall be installed between the gas line and wet utilities where the separation between the 2 utilities is less than 3 feet. **PG&E agreed to reimburse SFMTA through the Form B process.** COR #58; **Engineer's Estimate $146,018** **COMPLETE, NO FURTHER ACTION; CMOD #19**	**CMOD #19**		**1/2/2013**
1251-0025	09/07/11	082-0025	Additional PG&E conduit crossings at Geary and O'Farrell to minimize service interruption during future UMS Station construction	6						PG&E requested to install additional conduits crossing Stockton Street at Geary and O'Farrell to minimize service interruption during future UMS Station construction. David Greenaway is coordinating with PG&E regarding reimbursement of additional cost through the Form B process. **CLOSED; NO FURTHER ACTION. Item is captured under applicable JT Bid Item, See Trend 60.**			
1251-0026	09/14/11	082-0026	Install cantilever footing in lieu of regular OCS foundation at 2 locations on Mason Street between Geary and O'Farrell	2						The sub-basement in the public parking garage at O'Farrell/Mason extends beyond the property line up to the curb line. Therefore, regular foundations as per original design could not be installed. **CLOSED; NO FURTHER ACTION. Item is captured under applicable OCS Bid Item, See Trend 60.**			
1251-0027	09/20/11	082-0027	Accelerate installation of AT&T facilities in order for AT&T to start cut-over sooner	1	CMB-0056	Agree	11/30/11	+281,435		Acceleration is necessary to avoid potential delay impacts to Central Subway follow-on contracts. Initial Cost Estimate $287,000. COR #40 **COMPLETE, NO FURTHER ACTION; CMOD #10**	**CMOD #10 Approved**	**MAB**	
1251-0028	10/18/11	082-0028	Furnish and install AT&T Manholes 5828 (Stockton), 5831 (Geary), 5832 (O'Farrell) and 113 (O'Farrell)	6	CMB-0057	Agree	10/26/11	+157,000		AT&T was supposed to hire its own subcontractor to furnish and install all AT&T vaults in CN 1251. AT&T requested SFMTA for Synergy to perform this work as change order to CN 1251. **AT&T agreed to reimburse SFMTA through the Form B process.** COR #43 **COMPLETE, NO FURTHER ACTION; CMOD #11**	**CMOD #11 Approved**	**MAB**	
1251-0029	10/26/11	082-0029	Rebuild existing AT&T vault 133 at Post/Stockton and demolish existing AT&T vaults 403 (Ellis) and 113 (O'Farrell)	6						AT&T asked SFMTA to rebuild existing vault 133 (estimated cost at $30k). Demolition of existing vaults 403 and 113 was done on force account but was not included in the cost shown in Trend No. 28 and 19 (estimated cost at $20k). AT&T agreed to reimburse SFMTA through the Form B process. COR #64 **Vault 133 rebuild is superseded by Trend 40. Demolition of existing vaults 403 and 113 is superseded by Trend 43. Updated projected cost impact from $50,000 to $0.** **CLOSED; NO FURTHER ACTION. Demo of exiting vaults 403 and 113 are superseded by Trend 43. (See CMOD #23)**			
1251-0030	10/26/11	082-0030	Enlarge existing PG&E vault 873 at SW Geary/Stockton	6	CMB-0058	Agree	11/02/11	+40,000		PG&E asked SFMTA to enlarge vault 873. **PG&E agreed to reimburse SFMTA through the Form B process.** CMB approved a NTE amount of $40K **COMPLETE, NO FURTHER ACTION; CMOD #21**	**CMOD #21**		**1/2/2013**
1251-0031	10/26/11	082-0031	Additional PG&E conduits crossing O'Farrell on east side of Stockton (Task Order #32)	6	CMB-0058	Agree	11/02/11	+27,534		PG&E asked SFMTA to install additional conduits. **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #21**	**CMOD #21**		**1/2/2013**

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1251-0032	11/08/11	082-0032	Excavation and restoration cost for PG&E gas tie-in and kill holes.	6	CMB-0059	Agree	11/16/2011, 05/02/12	+98,439		PG&E gas drawings were not included in the bid package and there was no bid item to capture this work. Gas drawings was issued by PG&E in June 2011. **PG&E agreed to reimburse SFMTA through the Form B process.** **Updated projected cost impact from $202,400 to $169,087 due to reduction in number of kill holes from 18 to 15. 04/11: Discovery of actual number of Kill/Tie locations being 26 instead of 15 will require confirmation from PG&E of the locations and the new cost of scope of work.** **COMPLETE, NO FURTHER ACTION; CMOD #19**	CMOD #19		1/2/2013
1251-0033	11/23/11	082-0033	Install secondary enclosure wall at One Stockton (Apple Store)	1	CMB-0068	Agree	03/07/12	+408,700		Additional enclosure wall is design initiated change. COR #47, PCC #9 **Updated projected cost impact from $262,484 to $408,700.** 39 Calendar Day Time Extension **COMPLETE, NO FURTHER ACTION; CMOD #13 (formally CMOD #14)**	CMOD #13	MAB	4/21/2012
1251-0034	01/10/12	082-0034	Install temporary support as required to protect existing live utilities that are encroaching into the City right-of-way in front of 17-25 Stockton Street.	2	CMB-0069	Agree	04/04/12	+337,548		Existing utilities that are in active service were discovered in the City public right-of-way and are obstructing the performance of Contract work. Worst case scenario - "Not to Exceed" value) CM team will report actual amount value at a later date COR #71 CMB agreed to a Not-to-Exceed amount of $346,456 on 4/4/12. All physical work was scheduled to complete by 4/13/12 **COMPLETE, NO FURTHER ACTION; CMOD #17**	CMOD #17	MAB	6/28/2012
1251-0035	01/11/12	082-0035	Potholing on Stockton between Post and Geary for UMS Station design	1						UMS Design Team requested 1251 to pothole (6'Wx12'Lx8'D) on Stockton between Post and Geary to locate existing piles and tie-backs at Union Square. Cost for this scope of work from the Contractor is $19,870.73. Per direction from the CMB on Jan 18th this request is denied and the DP2 designer will cover this potential future obstruction with a note on the drawings. COR #53 **CLOSED; NO FURTHER ACTION. Per direction of CMB on 1/18/12, this request is denied and DP2 Designer will cover this potential future obstruction with a note on the drawings.**			
1251-0036	01/11/12	082-0036	Install three 6" PG&E conduits from vault 5800 to PG&E "A" pullbox at 4th/Bryant.	6						CN 1252 Contract is requesting 1251 to install PG&E conduits in order to bring power in advance of the tunnel equipment arrival. The scope of work, which involves trenching at the busy 4th/Bryant intersection, was part of the 1252 contract, hence, a credit of same amount ($54,892.07) to be due back to 1252. Based upon a field meeting and discussions with BIH on Jan 17th this work will be done under CN 1252 as originally planned. COR #55 **CLOSED; NO FURTHER ACTION. Based on field meeting with BIH on 1/17/12; this work will be completed under CN 1252 as planned.**			
1251-0037	01/17/12	082-0037	Install sewer lateral from the Gucci building (240 Stockton) to the main sewer on Maiden Lane. Work will involve plumbing modification inside building to raise invert.	3	CMB-0078	Agree	09/12/12	+25,926		After field investigation, the existing sewer lateral was found to connect to the Stockton main near Geary. However, the location where the lateral is connected to the main is inside the footprint of the UMS station, in which the main is shown in the contract plan to be slurry filled. The contract plan shows the lateral to be connected to the main on Maiden Lane but is not possible due to invert problem. At the CMB meeting on 1/18/12, Albert Hoe reported that he had instructed the design team during the design phase to investigate this lateral and make the connection to the sewer main at Maiden Lane. RE was asked to investigate if this could be a possible error and omission by the sewer design. (See Trends #44 and 45) **COMPLETE, NO FURTHER ACTION; CMOD #18**	CMOD #18		01/02/13
1251-0038	01/04/12	082-0038	Reimburse Synergy for JCDecaux work to remove kiosks	1	CMB-0064, CMB 0080	Agree	1/04/2012, 10/24/12	+29,268		JCDecaux refused to remove the remaining (2EA) kiosks without being paid for work already completed. The CMB approved on 1/04/12 Task Order No. 35 (Removal of 3EA sidewalk kiosks) as requested for the work already completed. On 10/24/12 the CMB approved Trend #38 removal of the remaining 2EA kiosks; work already completed and paid for as part of the approved CMB 0064 dated 01/04/12 for a total of **5EA kiosks removed. Total work priced at $29,268.** **COMPLETE, NO FURTHER ACTION; CMOD #22**			
1251-0039	01/17/12	082-0039	Furnish and install 2ea benches along 5th Street	1				+5,250		**COMPLETE, NO FURTHER ACTION; CMOD #22**			

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1251-0040	02/15/12	082-0040	Furnish and install AT&T Manholes 133 at Post/Stockton	6	CMB-0070	Agree	04/11/12	+45,000		AT&T requested SFMTA for Synergy to rebuild manhole 133 at Post/Stockton. COR #64 **AT&T agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #14**	**CMOD #14**	**MAB**	**04/24/12**
1251-0041	02/15/12	082-0041	Install additional 55 LF of AT&T trench to extend conduits from vault 5832 to vault 113 on O'Farrell Street	6	CMB-0070	Agree	04/11/12	+23,704		AT&T requested SFMTA for Synergy to extend their conduit from vault to vault instead of wye-casting into exiting ductbank. COR #63 **AT&T agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #14**	**CMOD #14**	**MAB**	**04/24/12**
1251-0042	02/15/12	082-0042	Install additional 95 LF of AT&T trench to extend conduits from vault 5831 to vault 129 on Geary Blvd.	6	CMB-0070	Agree	04/11/12	+31,525		AT&T requested SFMTA for Synergy to extend their conduit from vault to vault instead of wye-casting into exiting ductbank. **AT&T agreed to reimburse SFMTA through the Form B process.** COR #62 **COMPLETE, NO FURTHER ACTION; CMOD #14**	**CMOD #14**	**MAB**	**04/24/12**
1251-0043	02/15/12	082-0043	Force account work for demolition of existing AT&T vaults 113 (Post/Stockton) and 403 (Ellis)	6	CMB-0076	Agree Conditionally	10/03/12	+55,961		Agreed cost shown in Trends 29 and 40 is for installing vaults only. Cost to demo existing vaults is tracked on force account (estimated cost at $15k each vault). **AT&T agreed to reimburse SFMTA through the Form B process.** CMB Agreed contingent on receipt of confirmation letter from AT&T for costs associated with these three trends **(CMB 0076 approval - see Trend CN12511 #'s 72 & 80)** **OMPLETE, NO FURTHER ACTION; CMOD #23**	**CMOD #23**		**01/02/13**
1251-0044	02/15/12	082-0044	Install new sewer lateral from Macys West on O'Farrell including plumbing modification inside Macy's building.	3	CMB-0078	Agree	09/12/12	+20,014		Contract plan SW-4 shows an existing lateral to be connected to new main. However, the 8" lateral is too big to be connected directly to the new 14" main necessitating a new connection to the manhole. However, numerous existing utilities were in the way and required installation of a new lateral at a higher elevation. Due to the raised lateral invert, modification to the **COMPLETE, NO FURTHER ACTION; CMOD #18**	**CMOD #18**		**01/02/13**
1251-0045	02/15/12	082-0045	Install new 2 each sewer laterals on Stockton between Post and Geary	3	CMB-0078	Agree	09/12/12	+25,145		Contract plan SW-3 shows 2 each existing laterals coming from the Union Square garage to be connected to the new main at approximate sta 128+55. However, the laterals were found to be connected to the downstream end of the existing main (toward Geary), which is called for to be abandoned in 1251 to make room for the future station. (See Trends #37 and 44) **COMPLETE, NO FURTHER ACTION; CMOD #18**	**CMOD #18**		**01/02/13**
1251-0046	03/06/12	082-0046	Additional cost for enlarging PG&E vault 584 on O'Farrell east of Stockton	6				+60,053		The two (2) existing PG&E duct banks that were supposed to be intercepted by vault 584 were wider than shown on plan. Vault 584 was needed to be enlarged in order to capture the two (2) ductbanks. **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**
1251-0047	04/10/12	082-0047	Enlarge Muni Vault 900A on Stockton between Post and Geary	2	CMB-0082	Agree	10/31/12	+15,801		Contract plan JT-301 calls for an intercept vault to capture 2 (E) Muni ductbanks (DB). These DBs were found to be farther apart than shown on plan. The intercept vault needs to be widened. **RE awaiting COR** **(CMB 0082 approval - see Trend CN1251#'s 47, 58 & 78)** **COMPLETE, NO FURTHER ACTION; CMOD #26**	**CMOD #26**		**01/02/13**
1251-0048	04/10/12	082-0048	Additional cost and time for stuck auger during micropile drilling	2						Contractor's hollow stem auger got stuck during drilling of micropile #27C in front of 17 Stockton. Contractor claims differing condition as cause for the stuck auger. Contractor is asking for 1 day compensable time extension. SFMTA is reviewing claim for entitlement. COR #67 **RE Denied COR (City Letter 26); however Contractor will most likely send rebuttal.** **CLOSED; NO FURTHER ACTION.**			
1251-0049	04/10/12	082-0049	Additional cost and time for added rebar and coordination with 17-19 Stockton Owner's contractor	2	CMB-0083	Agree	11/07/12	+9,058		Existing footing of One Stockton was found to be recessed from property line. City's response to RFI 171 called for additional rebar to compensate for the gap between back of new enclosure wall and existing footing. Also, the Owner's contractor of 17-19 Stockton asked that Synergy clear his work area so he can pour the primary wall and bring in his new switchgear. Synergy is asking 2 days compensable time extension. **(CMB 0083 approval - see Trend CN1251#'s 53, 59, and 64)** **COMPLETE, NO FURTHER ACTION**			

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1251-0050	04/10/12	082-0050	Additional cost to install a Type 770 pole foundation at a different location, install 2 each DPT mast arms and demo existing wall in conflict with OCS footing	2	CMB-0074	Agree	08/15/12	+48,898		Type 770 pole foundation at SW 5th/Folsom could not be installed per plan due to a conflict with a cistern. Only solution is to remove an existing pole foundation (recently installed in 1251 as contract work) to make room for the 770 pole foundation. At 5th/Folsom, 2 DPT mast arms (not shown in original plan) need to be installed. At Pole #811, an existing concrete wall is in conflict with pole foundation. **RE preparing modification** **(CMB 0074 approval - see Trend CN1251 #'s 67, 74 & 75)** **COMPLETE, NO FURTHER ACTION; CMOD #20**	**CMOD #20**		**01/02/13**
1251-0051	04/10/12	082-0051	Intercept existing PG&E ductbank and terminate into vault 5464 at Market/Ellis	6				+15,000		PG&E requested to reroute existing ductbank running north out of MH 1803 at 4th/Pioneer Place into MH 5464 at Market/Ellis **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**
1251-0052	04/10/12	082-0052	Reroute unforeseen existing waterline on Geary east of Stockton	2	CMB-079	Agree	10/10/12	+28,852		An unforeseen existing waterline was found to be in conflict with PG&E vault 573 and needs to be rerouted per City's response to RFI #182. **RE awaiting COR** **(CMB 0079 approval - see Trend CN1251 #'s 65 & 70).** **This is potentially E&O issue due to unforeseen existing waterline on discovered along Geary Street (east of Stockton Street) not sown in the contract drawings.** **COMPLETE, NO FURTHER ACTION; CMOD #28**	**CMOD #28**		**1/2/2013**
1251-0053	04/10/12	082-0053	Additional cost for premium to accelerate contract work	1	CMB-083	Agree	11/07/12	+10,590		SFMTA directed Synergy to accelerate work to advance PG&E and AT&T cut-over and allow CN 1252 Contractor to start work at UMS COR #74 **PG&E agreed to reimburse SFMTA through the Form B process.** **11/07/12 (CMB 0083 approval - see Trend CN1251#'s 49, 59, and 64)** **COMPLETE, NO FURTHER ACTION; CMOD #27**	**CMOD #27**		**01/02/13**
1251-0054	04/17/12	082-0054	Additional waterproofing at FIDM and north end of Crate & Barrel	2				+8,151		Sidewalk in front of FIDM and north end of Crate & Barrel did not have a sub-sidewalk basement, hence the original plan did not call for waterproofing of the primary wall. While excavating for the joint trench, contractor found the existing waterproofing to be spalling and peeling off from the primary wall. COR #72 **COMPLETE, NO FURTHER ACTION; CMOD #22**	**CMOD #22**		**01/02/13**
1251-0055	04/17/12	082-0055	Install Swiveloc lids on all PG&E vaults	6				+29,255		PG&E requested SFMTA to add this scope to the 1251 contract for safety reason. COR #72 **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**
1251-0056	05/31/12	082-0056	Additional work on force account related to sewer installation	2				+45,156		Additional work due to unforeseen and differing conditions during installation of sewer. **COMPLETE, NO FURTHER ACTION; CMOD #15**	**CMOD #15**	**MAB**	**06/01/12**
1251-0057	05/31/12	082-0057	Additional work on force account related to water installation and NRG vault demolition	2				+39,599		Additional work due to unforeseen and differing conditions during installation of water and demolish existing NRG vaults that are in conflict with utility installation. **COMPLETE, NO FURTHER ACTION; CMOD #16**	**CMOD #16**	**MAB**	**06/01/12**
1251-0058	05/31/12	082-0058	Additional streetlight conduit on 5th Street between Harrison and Bryant	2	CMB-0083	Agree	10/31/12	+1,754		The existing streetlight pullboxes new cables were supposed to be connected to per contract plan did not have power. New conduit needs to be install from the power source. COR #75 **RE to review COR** **(CMB 0082 approval - see Trend CN1251 #'s 47, 76 & 78)** **COMPLETE, NO FURTHER ACTION; CMOD #25**	**CMOD #25**		**1/2/2012**
1251-0059	06/26/12	082-0059	Accelerate contract work at Barney's front	1	CMB-0083	Agree	11/07/12	+16,948		As a result of numerous meetings and complaints by Barneys, it was decided to accelerate contract work in order to restore Barneys sidewalk earlier **(CMB 0083 approval - see Trend CN1251#'s 53, 49, and 64)** **COMPLETE, NO FURTHER ACTION; CMOD #27**	**CMOD #27**		**01/02/13**
1251-0060	06/26/12	082-0060	Final Bid Item Reconciliation	4					+25,946	Bid item analysis for entire contract as of 6/12/12.			
1251-0061	06/26/12	082-0061	Excavate for PG&E cutover at 177 Stillman	6				+15,000		PG&E requested Synergy to excavate for PG&E cutover at 177 Stillman. Reference document: Email from Michael Lightstone dated 12/9/11 **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**

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1251-0062		082-0062	Additional waterproofing at Macys Men's wall	2				+24,774		Contract did not call for waterproofing at Macys Men's wall. However, when contractor dug for the joint trench, it was found that the existing waterproofing has deteriorated and needed to be replaced. COR# 20 **COMPLETE, NO FURTHER ACTION; CMOD #22**	**CMOD #22**		**1/2/2013**
1251-0063		082-0063	Excavation and restoration cost for PG&E gas tie-in and kill holes. Part II	6				+40,000		After completion of Part I (see trend 32), PG&E had offered to self-perform the excavation and restoration of the gas tie-in/kill holes because PG&E had crews available to perform the work. However, PG&E no longer have available crews, hence Synergy had to continue and finish excavating and restoring the last tie-in/kill holes. **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**
1251-0064		082-0064	Accelerate finish and detail work of AT&T and PG&E vaults	1	CMB-0083	Agree	11/07/12	+4,704		In order to expedite turn-over of AT&T and PG&E vaults, SFMTA directed Synergy to accelerate the detailing and finish work of these vaults. SFMTA will pay Synergy premium cost for OT hours. **11/07/12 (CMB 0083 approval - see Trend CN1251#'s 53, 59, and 49)** **COMPLETE, NO FURTHER ACTION; CMOd #27**	**CMOD #27**		**1/2/2013**
1251-0065		082-0065	Additional fittings for AWSS lateral and chipping of pole foundation at Market/Ellis	2	CMB-0079	Agree	10/10/12	+21,779		An existing Muni pole foundation is in the way of the AWSS lateral. Additional fittings are required to complete contract work. **RE awaiting COR** **(CMB 0079 approval - see Trend CN1251 #'s 52 & 70)** **This is potentially an E & O issue due to an existing Muni pole foundation is in the way of the AWSS lateral.** **COMPLETE, NO FURTHER ACTION; CMOD #28**	**CMOD #28**		**1/2/2013**
1251-0066		082-0066	Intercept PG&E conduits at Vault 573 at Geary east of Stockton	6				+15,000		During installation of PG&E intercept vault 573, PG&E had incorrectly identified the conduits to be intercepted. This error was discovered during cut-over process by PG&E. **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**
1251-0067		082-0067	Additional feeder span, no-bo insulator and adjustment of guywire for the Folsom OCS bypass	3	CMB-0074	Agree	08/15/12	+32,149		to power the new OCS necessitating installation of feeder spans. Also, adjustments to the guywire are necessary to mitigate conflict with new signal mast arms. COR #76 **RE presented COR to CMB 7/25; direction given to develop one CMod with all remaining items to be purchased for the new OCS bypass.** **RE to prepare modification** **(CMB 0074 approval - see Trend CN1251 #'s 50, 74 & 75)** **COMPLETE, NO FURTHER ACTION; CMOD #20**	**CMOD #20**		**01/02/13**
1251-0068		082-0068	Extended Overhead cost from July 19, 2012 to August 16, 2012	1	CMB-0075	Agree Conditionally	10/03/12	+106,967		Contract is expected to be extended beyond the approved July 18, 2012 completion due to the following reasons: contractor was slowed due to accommodation of AT&T and PG&E cut-over, for example, contractor has to provide windows of time for AT&T to occupy its work space to provide continuity and efficiency for AT&T cut-over, contractor has to advance cleaning and detailing of vaults to turnover to AT&T and PG&E, these work are typically done as punchlist, contractor now has to resequence work and reallocate resources; SFWD cut-over is taking longer than expected; PG&E gas cut-over was delayed due to inability to access Armani building, this delay held up completion of sewer MH, SFWD connection and restoration on O'Farrell east; added change order work, i.e. additional PG&E conduit at vault 573 and additional excavation for AT&T cut-over at 240 Stockton. **CMB Agreed contingent on receipt of letter confirming e-mail as presented in the meeting and content viewed related to agreement and remaining actions and release of funds.** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**
1251-0069		082-0069	Removal of abandoned PG&E gas valve (8each) and install anodes	6				+15,000		PG&E asked Synergy to remove all abandoned gas valves (8each) **PG&E agreed to reimburse SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**

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1251-0070		082-0070	Core drill primary wall and install interior plumbing at Armani and Disney for the fire service water cutover	2	CMB-0079	Agree	10/10/12	+14,033		Existing fire service inside the building is a thin-wall steel pipe that extends out to the previously existing sub-sidewalk basement. However, 1251 had backfilled the subsidewalk basement per contract, which now made the steel pipe susceptible to corrosion. SFWD does not want to tie-in to the steel pipe due to corrosion issue plus the fact that the pipe is thin walled, which makes welding almost impossible. A ductile iron pipe needs to be installed from the main and into the building. COR #77 **RE reviewing COR** **(CMB 0079 approval - see Trend CN1251 #'s 52 & 65)** **COMPLETE, NO FURTHER ACTION; CMOD #28**	**CMOD #28**		**1/2/2013**
1251-0071		082-0071	Install a new 8" backflow preventer for the fire service inside Macys Men's building	6						The new water main (installed in the 1251 Contract) is closer to the property line than the existing backflow preventer. State law stipulates that a backflow preventer be installed in between the property's fire suppression system and the water main. The SFWD refuses to make this connection until a proper backflow preventer is installed. SFMTA will insist on Macys to install its own backflow preventer. **CLOSED; NO FURTHER ACTION.**			
1251-0072	08/08/12	082-0072	Additional AT&T trench from new vault 5829 to existing vault 127 on Geary east of Stockton	6	CMB-0076	Agree Conditionally	10/03/12	+15,020		AT&T requested new conduits to maintain continuity between the 2 vaults. **AT&T agreed to reimburse SFMTA through the Form B process.** **RE Tracking work on FAR** **CMB Agreed contingent on receipt of confirmation letter from AT&T for costs associated with these three trends** **RE to prepare modification** **(CMB 0076 approval - see Trend CN1251 #'s 43 & 80)** **COMPLETE, NO FURTHER ACTION; CMOD #14**	**CMOD #14**		**1/2/2013**
1251-0073	08/08/12	082-0073	Additional work to install water and electrical utilities for Flower Stand on Geary west of Stockton	1					+18,840	Contract bid allowance for providing utility services for flower stands (UD-14) had been exhausted during relocation of 2 flower stands. A third and final flower stand is still needed to be relocated. **RE to prepare mod**			
1251-0074	08/08/12	082-0074	Traffic Signal modification at 5th/Folsom	1	CMB-0074	Agree	08/15/12	+16,429		Due to installation of OCS bypass on Folsom between 4th and 5th Streets, a left turn signal is required at 5th/Folsom. Additional signal heads and modification to the existing traffic signal is necessary. **RE Tracking work on FAR** **RE to prepare modification** **(CMB 0074 approval - see Trend CN1251 #'s 50, 67, & 75 also).** **COMPLETE, NO FURTHER ACTION; CMOD #20**	**CMOD #20**		**01/02/13**
1251-0075	08/08/12	082-0075	Unforeseen conditions related to pole foundation installation for the Folsom OCS Bypass	2	CMB-0074	Agree	08/15/12	+12,568		Contractor encountered unforeseen concrete and brick substructures and abandoned utility lines. **RE Tracking work on FAR** **RE to prepare modification** **(CMB 0082 approval - see Trend CN1251#'s 47, 58 & 78)** **COMPLETE, NO FURTHER ACTION; CMOD #20**	**CMOD #20**		**01/02/13**
1251-0076	08/08/12	082-0076	Adjustment to OCS on Mason Street	2/3	CMB-0082	Agree	10/31/12	+14,987		Modify bracket arm at existing Pole #511 to alleviate tension load and bending of pole. Realign trolley wire on Mason between Geary and Eddy to smoothen transition when shifting from right lane to left lane. Also, add intermediate guywire to prevent excessive sagging of bracket arms at various locations. **RE Tracking work on FAR** **(CMB 0082 approval - see Trend CN1251#'s 47, 58 & 78)** **COMPLETE, NO FURTHER ACTION; CMOD #26**	**CMOD #26**		**1/2/2013**
1251-0077	09/12/12	082-0077	Additional work related to Qwest, TCG and UCCO facilities	2	CMB-0081	Agree Conditionally	10/31/12	+37,181		Qwest, TCG and UCCO requested Synergy to tie-in their existing conduits into the new vaults that Synergy installed per contract. The utility companies are responsible for connecting existing conduits into new vaults, therefore, this request is considered extra work. **Private Utilities companies agreed to reimburse SFMTA through the Form B process.** **RE Tracking work on FAR** **CMB agreement contingent upon CMod package to include evidence from all utilities that cost are reimbursable to SFMTA through the Form B process.** **COMPLETE, NO FURTHER ACTION; CMOD #25**	**CMOD #25**		

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1251-0078	09/12/12	082-0078	Unforeseen conditions encountered during excavation and installation of OCS poles along Mason and 5th Streets.	2	CMB-0082	Agree	10/31/12	+27,644		Several obstructions, i.e. buried concrete, boulders, brick, abandoned utilities were discovered during excavation and installation of OCS poles along Mason and 5th Street. **RE Tracking work on FAR** **(CMB 0082 approval - see Trend CN1251 #'s 47, 58 & 76)** **COMPLETE, NO FURTHER ACTION; CMOD #26**	**CMOD #26**		**1/2/2013**
1251-0079	09/12/12	082-0079	Additional work related to installation of PG&E Vaults 467, 571, 573, 586 and 594 including joint trench leading to these vaults	2				+44,530		Unforeseen conditions were encountered during installation of select PG&E vaults including joint trenches leading to these vaults. **PG&E agreed to reimburse SFMTA through the Form B process.** **RE Tracking work on FAR** **COMPLETE, NO FURTHER ACTION; CMOD #24**	**CMOD #24**		**1/2/2013**
1251-0080	09/12/12	082-0080	Additional work related to installation of AT&T Vaults 5828, 5829, 5830, 5831, 5832 and 5833 including joint trench leading to these vaults	2	CMB-0076	Agree Conditionally	10/03/12	+58,180		Unforeseen conditions were encountered during installation of select AT&T vaults including joint trenches leading to these vaults. CMB Agreed contingent on receipt of confirmation letter from AT&T for costs associated with these three trends **AT&T agreed to reimburse SFMTA through the Form B process.** **RE to prepare modification** **(CMB 0076 approval - see Trend CN1251 #'s 43 & 72)** **COMPLETE, NO FURTHER ACTION; CMOD 23**	**CMOD #23**		**1/2/2013**
1251-0081	09/13/12	082-0081	PG&E concrete cover versus CDF on electrical ductbank	6					+99,751	Contract Plan JT-014 calls for CDF cover on PG&E ductbank. However, PG&E requested to use regular concrete due to heat dissipation problem with CDF. 12/19/12 - Presented to CMB, direction given to finalize cost and obtain a Form B agreement with PG&E			
Contract 1251 Totals								**+4,482,370**	**+144,537**	**Of the total cost exposure shown, changes have been absorbed by allocated contingency in the amount of $2,618,313. Additional potential exposure shown includes credits provided through Utility Reimbursement. Final Contract Closeout Total $21,003,607**			
Contract 1252 - Tunnels													
1252-0001 COR #001,	04/11/12		AWSS Conflict w/ Low Pressure Water	6					+16,906	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.			
1252-0002 **COR #002**	04/11/12		AWSS Add. Tie-Rods 4th-Harrison	6					+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-feet 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.			
1252-0003 **COR #003**	04/06/12		AT&T Vault Conflict-4th & Harrison	6					+41,218	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 Tat 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. **Work is to be charged via SFMTA Form B agreement to AT&T**.			
1252-0004 **COR #006**	04/06/12		PG&E live electrical delays	2					+8,295	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.			
1252-0005 **COR #007**	06/12/12		Oil filled pipe @ Launch Box	2					+9,979	Synergy Demo Crew exposed an existing 6" steel line which had oil in it on the West side of 4th St between Harrison and Bryant.			
1252-0006 **COR #008**	07/16/12		TIA - Associated w/ COR 001, COR 002, and COR 003	6					-0-	TIA and Overhead Costs related to COR 001, 002 and 003.			

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1252-0007 **COR #009**	05/23/12		MOS - Live Utilities: PGE, AT&T, and SFWD 8" Water Line extra kill hole location	**2**					-0-	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.			
1252-0008 **COR #010**	07/16/12		MOS - Demo PGE duct bank / SF City 911 fiber optic line	**2**					+4,919	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			
1252-0009 **COR #011**	06/29/12		MOS - Traffic Signal line re-route south headwall	**6**					+37,500	After potholing Synergy discovered several traffic lines which were in the proposed location of the south MOS headwall. Traffic Lines re-routed.			
1252-0010 **COR #012**	07/16/12		MOS - Archaeological Standby North Headwall	**2**					+16,861	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered a layer of "Midden" or Native American debris..			
1252-0011 **COR #013**	07/16/12		MOS - SL conduit from PG&E vault @ north headwall	**6**					+10,903	Permanent power is required to supply an existing Street Light box north of the MOS N headwall.			
1252-0012 **COR #015**	07/16/12		LB - Pre-Excavation for Slurry Walls	**2**					+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.			
1252-0013 **COR #015**	06/29/12		MOS - Standby Delays @ south headwall due to live TS lines	**6**					-0-	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.			
1252-0014 **COR #019**	07/16/12		UMS - Grant street 2 way conversion (e- & striping)	**7**				-0-		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. 07/18/12 - This potential change was brought before the CMB. Board's decision to have DPT perform the work. **CLOSED; NO FUTHER ACTION**			
1252-0015 **COR #020**	06/22/12		PROJECT WIDE - Utility Demo limit reduction credit	**5**					-0-	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 **COR #021**	07/16/12		UMS - Reduced Duration	**5**	CMB-0073	Agree (Conditionally)	08/01/12		-0-	No cost change for acceleration of utility relocation, ground improvements (jet grouting), and headwall construction at Union Square/Market Street Station. **Approval condition up incorporating correctness to backup documentation as required by & documented in CMB mtg. RE to prepare modification** **Modification in process**	**CMod #3**		
1252-0017 **COR #022**	07/10/12		MOS - Asbestos Pipe at north headwall	**2**					+7,186	Upon excavation of the MOS north headwall, BIH's subcontractor Synergy Project Management (SPM) uncovered fryable asbestos-laden transite pipe.			

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1252-0018 **COR #023**	07/10/12		MOS - Brick Wall #2 discovered @ north headwall	**2**					-0-	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.			
1252-0019 **COR #026**	08/07/12		MOS - Asbestos Pipe at south headwall	**2**					+33,668	Transite pipe was discovered during MOS south headwall excavation.			
1252-0020 **COR #027**	08/10/12		MOS - Oil filled pipe at south headwall	**2**					+9,226	A pipe containing oil was discovered during MOS south headwall excavation.			
1252-0021 **COR #029**	06/19/12		MOS - Todco scaffolding reimbursement	**2**					+1,719	1252 contract work requires the removal of scaffolding erected by Fine Line Construction, the contractor performing renovations on the Woolf House. **RE reviewing COR**			
1252-0022 **COR Closed**	03/15/12		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 crosspassage 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 crosspassage 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 and preparatory and utility work necessary for the construction of the retrieval shaft. **CLOSED NO FURTHER ACTION.**			
1252-0023 COR #004	05/07/12		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. **CLOSED; NO FURTHER ACTION.**			
1252-0024 **COR Closed**	04/18/12		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. **CLOSED; NO FURTHER ACTION.**			
1252-0025 **COR #005**	04/18/12		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 r0eportedly 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 **COR Closed**	06/12/12		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 **COR #014**	07/16/12		MOS - 76 Gas Station fencing	**1**				**-0-**		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. **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** **CLOSED; NO FUTHER ACTION**			

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1252-0028 **COR #016**	07/16/12		LB - SPTC delays due to concrete encased 8" sewer	**2**				**-0-**		Closed. Combined with COR 015. **Verbal information presented to CMB at mtg 07/25 as a potential change.** **CLOSED; NO FUTHER ACTION**			
1252-0029 **COR #018**	07/16/12		MOS - South Headwall re-design	**1**					-0-	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			
1252-0030 **COR #024**	08/02/12		Ellis - Utility demolition	**3**					+38,678	BIH says that no utilities were shown at Ellis; however, Reference Drawing UE-126 shows utilities.			
1252-0031 **COR #025**	07/25/12		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 **COR #028**	08/07/12		Ellis asbestos abatement	**2**					+40,000	A steam line containing asbestos was discovered during potholing at the Ellis Street Shaft.			
1252-0033 **COR #030**	08/15/12		LB - Class 1 Hazardous Material Haul off	**2**					+198,276	BIH trucking costs for Class 1 haul off. Also see COR 054 regarding Class 1 Haz material haul off for Phase 2. Cost to be reimbursed by "ES-8". Additional costs hazardous waste allowances.			
1252-0034 **COR Unsubmitted**	08/15/12		LB - Jet Grout Quantity Overrun	**4**					+812,497	The contract drawings call for the contractor to determine the extent of jet grouting at the launch box. BIH's jet grout quantities are projected to overrun the prescribed bid quantity by up to 40 percent.			
1252-0035 **COR Unsubmitted**	08/24/12		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 **COR #035**	09/19/12		Additional Road Base on Fourth Street	**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 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.			
1252-0037 **COR Unsubmitted**	09/19/12		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 **COR #038**	09/19/12		Manhole in West Guidewall Footprint	**2**					+4,000	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.			

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1252-0039 **COR Unsubmitted**	09/19/12		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 **COR #052, PCC #1**	09/19/12		Revisions to Moscone North Headwall Elevation (Top)	**1**					+21,181	SFMTA initiated change to revise headwall elevations to facilitate a change in the roof elevation of MOS station.			
1252-0041 **COR #060, PCC #2**	09/19/12		Revisions to UMS Headwall Concrete and Reinforcement Limits	**1**					TBD	SFMTA initiated change to revise UMS headwall concrete and reinforcement limits to provide a cost savings.			
1252-0042 **COR #031**	09/19/12		Retrieval Shaft - Unmarked 12" Steel Pipe	**2**					+6,000	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 run continuously under Columbus Ave.			
1252-0043 **COR #032**	09/19/12		LB - Panel W29 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-29.			
1252-0044 **COR #033**	09/19/12		Ret Shaft - 20" Water Line Conflict	**2**					+67,000	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 the merit of this COR. RE will proceed with scoping the work.			
1252-0045 **COR #034**	09/19/12		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 **COR #036**	09/19/12		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 **COR #037**	09/19/12		UMS - 12" steel pipe removal	**3**					-0-	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 **COR #039**	09/19/12		MOS - 16" Steel Pipe removal @ northeast headwall	**3**					+3,500	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.			
1252-0049 **COR #040**	09/19/12		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'.			
1252-0050 **COR #041**	09/19/12		LB - Impacts due to live PG&E electrical lines (Synergy)	**6**					+1,500	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.			

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1252-0051 **COR Executed**	10/25/12		Contract Amendment No. 2	**1**					(3,040,713)				
1252-0052 **COR #042**	10/25/12		LB - Panel W25 Wood Pile	**2**					+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.			
1252-0053 **COR #043**	10/25/12		LB - Panel W30 Wood Pile	**2**					+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.			
1252-0054 **COR #044**	10/25/12		MOS - 16 steel pipe removed @ southeast headwall	**3**					+1,000	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.			
1252-0055 **COR #045**	10/25/12		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.			
1252-0056 **COR #046**	10/25/12		UMS - Unmarked steel pipes (6", 12", 14") / Duct Bank	**6**					+15,000	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.			
1252-0057 **COR #047**	10/25/12		Ret Shaft - unmarked 10' steel piped/duct bank	**6**					+7,500	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.			
1252-0058 **COR #048**	10/25/12		UMS- 3'x5' brick sewer at south headwall	**6**					+15,000	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.			
1252-0059 **COR #049**	10/25/12		Ret Shaft - Tree trimming debris haul off	**7**					+1,500	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.			
1252-0060 **COR #050**	10/25/12		Ret Shaft 12" steel pipe removed at Union/ Columbus	**6**					+3,750	BIH/SFMTA to finalize labor rates			
1252-0061 **COR #051**	10/25/12		Ret Shaft - Elevation design conflict (30' low ppl water / sewer)	**3**					+26,000	SPM preparing COR form.			
1252-0062 **COR #053**	10/25/12		Chinatown - Night drilling for instrumentation	**7**					-0-	**CLOSED**			
1252-0063 **COR #054**	10/25/12		LB Class 2 Hazardous Material Haul Off (Phase 2)	**2**					+115,915	Cost to be reimbursed by "ES-8". Additional costs hazardous waste allowances.			
1252-0064 **COR #055 PCC #04**	10/25/12		PCC No. 4 - Ret shaft sewer pipe material change	**1**					+153,740	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, ½-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 **COR #057**	10/31/12		UMS - Tree Removal	**1**					+13,345	SFMTA is directing removal of a tree at the northeast corner of Stockton and O'Farrell St.			

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1252-0066 **COR #059** **PCC #05**	10/31/12		PCC No. 5 - Ret Shaft Water Dist. Pipe Material Change	**1**					(31,012)	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 **COR #058**	11/05/12		Ret Shaft - Additional 10" steel pipe removal	**6**					+650	Work is a continuation of work performed in COR 047.			
1252-0068 **COR #056** **PCC #03**	11/05/12		PCC No. 3 - General Detour Signage	**1**					+22,180	BIH/SFMTA to finalize labor rates 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.			
1252-0069 **COR #064** **PCC #06**	11/05/12		PCC No. 6 - Supplemental instrumentation of BART tunnel lining.	**1**					+97,369	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 **COR Unsubmitted**	11/13/12		Full Closure of 4th Street	**1**					-0-	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 **COR #061**	11/13/12		LB - Panel P-17 Buried Obstruction	**1**					+5,000	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.			
1252-0072 **COR #062**	11/16/12		LB – Panel P-9 Buried Obstruction	**2**					+150,000	CJA-NCC discovered a buried obstruction while excavating slurry diaphragm wall panel P-9 at the Launch Box location.			
1252-0073 **COR #063**	11/16/12		UMS - 48" Steel Pipe @ southwest headwall	**2**					+250,000	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.			
1252-0074 **COR #065**	12/12/12		LB – Panel P-12 Buried Obstruction	**2**					+150,000	CJA-NCC discovered a buried obstruction (water main) while excavating slurry diaphragm wall panel P-12 at the Launch Box location.			
1252-0075 **COR #066**	12/12/12		Retrieval Shaft - Unmarked 12" Steel Pipe	**2**					+6,500	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.			
1252-0076 **COR #067**	12/12/12		LB - Panel P-10 Buried Obstruction	**2**					+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.			
1252-0077 **COR #NA** **PCC#07**	12/19/12		PCC No. 7 BART Temporary Annex Wall	**1**					+7,498	SFMTA is requesting Contractor construct temporary wall for Bart Annex for SFMTA use.			
Contract 1252 Totals								**-0-**	**(531)**				
CONSTRUCTION TRENDS (Based on #1250, #1251 & #1252 Trending Log and Cmods) - SUBTOTALS:								**+7,662,870**	**(1,333,493)**				

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DESIGN TRENDS													
FD-001	07/31/10	084-0001	Narrowing of Platform at UMS	1	CMB-0006	Agree	08/04/10	(800,000)	(800,000)	[In "Current Forecast" - Sep2010 Cost Report.]			
FD-002	07/12/10	084-0002	Redux of Station Emergency Ventilation Fans (UMS)	1	CMB-0009	Agree (Conditionally)	08/25/10	(2,000,000)	(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	Redux of Station Emergency Ventilation Fans (CTS)	1	CMB-0009	Agree (Conditionally)	08/25/10	(500,000)	(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	Redux of Station Emergency Ventilation Fans (MOS)	1	CMB-0009	Agree (Conditionally)	08/25/10	(500,000)	(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	Lowering of CTS	1	To be verified	Info Only	08/25/10	+7,000,000	+7,000,000	Presented to CMB for information/consideration.			
FD-004	07/29/10	084-0003	UMS Structural Configuration	1	CMB-0007	Agree	08/18/10	(8,000,000)	(8,000,000)	[In "Current Forecast" - Sep2010 Cost Report.]			
FD-005	08/22/10	084-0004	UMS Alternate Station Access/Vent Shaft @ Union Square	1	CMB-0010	Agree	12/29/10	(22,500,000)	(22,500,000)	Documentation to be filed.			
FD-006	08/03/10	084-0005	Station Headwalls - UMS	1	CMB-0008	Agree	08/18/10	-0-	-0-				
FD-006	08/03/10	086-0002	Station Headwalls - MOS	1	CMB-0008	Agree	08/18/10	-0-	-0-				
FD-007	08/03/10		Cross-passages	1	CMB-0018	Agree	09/15/10	-0-	-0-				
FD-008	07/30/10		Trolley Re-route @ Columbus & Powell	1	CMB-0017	Agree	09/15/10	-0-	+2,000,000				
FD-009	10/06/10	082-0003	ECP to Modify Sidewalk Vault Demolition and Construction Sequence to Facilitate Construction of Joint Utilities Trench and Future UMS Station	1	CMB-0019	Agree	12/15/10		+3,000,000				
FD-010	10/06/10	082-0004	Redesign Stockton Street Sanitary Sewer to conform to SFPUC Sewer Criteria that preclude placement of relocated sanitary sewer under sidewalks	1	CMB-0020	Agree	11/17/10		+2,000,000				
FD-011	10/06/10	082-0005	Reconfigure Routing of Water, Sewer and Gas laterals from buildings on north side of Ellis Street	1	CMB-0021	Agree	11/17/10		+500,000				
FD-012	10/06/10	082-0006	Recognize cost transfers from design allowances allocated to contingency to explicit line items in final design estimates	1	CMB-0022	Disagree	11/17/10		-0-				
FD-013	10/06/10	082-0007	Increase Extent of Sub-sidewalks Vault Secondary Closure Walls and Waterproofing	1	CMB-0023	Agree	11/17/10		+4,100,000				
FD-014	10/06/10	082-0008	Include OCS system for rerouting trolley buses to Fifth Street	1	CMB-0024	Agree	12/15/10		+3,100,000				
FD-015	10/06/10	082-0009	Subsidewalk Vault Secondary Closure Walls for Buildings at 800 Market and 838 Market	1	CMB-0025	Agree	11/17/10						
FD-016	10/06/10	085-0003	Underpinning of Mandarin Tower	1	CMB-0011	over taken by FD-021	01/19/11		+5,000,000	Additional Information Pending.			
FD-017	10/06/10	085-0004	CTS Ground Improvement	1	CMB-0012	over taken by FD-021	01/19/11		+10,300,000	Additional Information Pending.			
FD-018	10/06/10	084-0006	UMS Apple Store Entrance	1	CMB-0013	Disagree	11/10/10		-0-	Additional Information Pending.			
FD-019	10/06/10	086-0003	MOS TOD Configuration	1	CMB-0014	Agree	11/10/10		TBD				
FD-020	10/06/10	084-0007	UMS Emergency Stair #4 Relocation	1	CMB-0015	Agree	11/10/10		TBD				

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FD-021	01/14/11	085-0005	CTS Lowering and Stations Reconfiguration	1	CMB-0027	Agree	01/19/11	(18,000,000.00)	(18,000,000)	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	Sewer Replacement along Geary & O'Farrell	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	Emergency walkways through crossover cavern changed from outside the main tracks to between the main tracks.	1	CMB-0032	Agree	07/27/11						
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		**mab**	**06/27/12**

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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		**mab**	**06/27/12**
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 buldbout 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									**+3,866,000**	**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**					(7,967,949)	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 YOE	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**	ss	
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**	ss	
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**	ss	
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**		
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			

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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)	1						Stations and track and systems into Contract 1300 (SSTS)			
X80-015	12/17/12		Changing the Bid Opening date and condensing the Contract Duration for Contract 1300	1						Changing the Bid Opening date and condensing the Contract Duration for Contract 1300			
OTHER TRENDS (Based on Various Trends)									**+59,258,533**	**Current Forecast reflects a net +3,537,933 unfavorable impact for all Other Trends.**			
GRAND TOTALS									**+61,791,040**	**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-	-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					-0-				
1551-0004	02/18/11	071-0004	Redesign Required by Barney's and PUC for CP-2	7					-0-				
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**		
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.			

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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								**+696,882**	**+290,000**	**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.			
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								**+1,046,324**	**+850,384**	**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													

1 - Owner Directed Change in Scope
2 - Unforeseen Conditions
3 - Errors and Omissions
4 - Quantity Variation
5 - Value Engineering
6 - Private Utilities
7 - Other

CENTRAL SUBWAY PROJECT

Project Trend/Change Control Log

Item #	Date Initiated		Change Description	Change Type	CMB No.	Status		Projected Cost Impact +Exposure/(Benefit)		Comments	Modification Number	Completed by Project Controls Manager per Completed Change Form	
						Action	Date	Actual/Forecast	Potential Change			Verifier Name	Date
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 8/9/11authorizing $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 F	1		Authorized	08/01/11	+257,129		SFMTA letter 0933 from ED/CEO dated 8/9/11authorizing $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 8/9/11authorizing $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 8/9/11authorizing $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 9/27/11to 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		
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**			
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	mab	06/26/12
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 **CCOMPLETE, 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 **CCOMPLETE, 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		

1 - Owner Directed Change in Scope
2 - Unforeseen Conditions
3 - Errors and Omissions
4 - Quantity Variation
5 - Value Engineering
6 - Private Utilities
7 - Other

CENTRAL SUBWAY PROJECT

Project Trend/Change Control Log

Item #	Date Initiated		Change Description	Change Type	CMB No.	Status		Projected Cost Impact +Exposure/(Benefit)		Comments	Modification Number	Completed by Project Controls Manager per Completed Change Form	
						Action	Date	Actual/Forecast	Potential Change			Verifier Name	Date
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 in crease 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								**+1,961,345**	**+85,486**	**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.**			

1 - Owner Directed Change in Scope
2 - Unforeseen Conditions
3 - Errors and Omissions
4 - Quantity Variation
5 - Value Engineering
6 - Private Utilities
7 - Other