


## Memorandum

CS Memorandum No. 1603

**To:** Distribution

**From:** Beverly Ward, CMB/Risk Management Assistant 

**Date:** December 12, 2013

**Reference:** Project No. M544.1, Contract No. CS-149  
Task No. 1-4, Risk Management

**Subject:** Risk Mitigation Report No. 52, Rev. 0

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Attached please find Risk Mitigation Report No. 52 for meeting held on November 12, 2013. Please click on the "Bookmark" tab on the left side of Adobe file to navigate to report sections Attachments:.

Risk Mitigation Report No. 52, Rev 0 with attachments

**Cc:** Jeffrey Davis, FTA [jeffrey.s.davis@dot.gov](mailto:jeffrey.s.davis@dot.gov)  
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Roger Nguyen, SFMTA (w/attachments) - via email  
Mark Latch, CSP (w/attachments) - via email  
Jane Wang, SFMTA (w/attachments) - via email  
Chuck Morganson, HNTB/B&C (w/attachments) - via email  
Aileen Read, CSDG (w/attachments) - via email  
CS File No. M544.1.5.0820

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**Distribution:**

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Mark Benson, CSP  
Richard Redmond, CSP  
Vivian Chow, SFMTA  
Eric Stassevitch, CSP  
Alex Clifford, CSP  
Beverly Ward, CSP

## Risk Mitigation Meeting Minutes #52

DATE: December 12, 2013

MEETING DATE: **November 12, 2013**

LOCATION: 821 Howard Street, 2<sup>nd</sup> Floor – Main Conference Room

TIME: 2:00pm

ATTENDEES: John Funghi, Albert Hoe, Eric Stassevitch, Alex Clifford, Richard Redmond, Vivian Chow, Mark Benson, Jane Wang, Beverly Ward, Luis Zurinaga, Bradley Lebovitz

COPIES TO: Attendees: Roger Nguyen, Mark Latch, Sanford Pong, Aileen Read, Chuck Morganson, James Sampson, David Kuehn, Jeffrey Davis  
File: M544.1.5.0820

REFERENCE: Project No. M544.1, Contract No. 149 Task 1-4.01  
Program/Construction Management

SUBJECT: **Risk Management – Risk Mitigation Meeting  
Risk Mitigation Report No. 52**

### RECORD OF MEETING

ITEM #	DISCUSSION	ACTION BY DUE DATE
	<b>Report on Red Risk and – (Risk rating ≥ 6)</b>	
1 -	<p><b>Risk 83:</b> Cost of vehicles are more than estimated <u>Discussion:</u> No update. Waiting for bid, we will know more in December. <b>Risk Rating 8</b></p> <p><b>Risk B:</b> Storage and testing of excavated soils from tunnel limits advance rate of tunneling. <u>Discussion:</u> Risk already transferred to the Contractor. No more risk to the Program. <b>Risk Rating 0 - Risk Retired</b></p> <p><b>Risk 99:</b> Breakdown in relationships between SFMTA and Contractors during construction results in increased claims and delays to the overall construction schedule. <u>Discussion:</u> Although a couple of claims have been settled and execution of outstanding change orders have been processed the Issue Resolution ladder (IRL) process is not working well. Need to revisit the process with the Contractor to stress the need to resolved issues at the lowest level. Due to the progress that has been made the risk cost impact was lowered to 4 and schedule impact lowered to a 1. <b>Risk Rating 5</b></p> <p><b>Risk 203:</b> Headwalls interface delay CN1300 Contractor <u>Discussion:</u> Headwalls is complete. <b>Risk Rating 0 - Risk Retired</b></p>	

ITEM #	DISCUSSION	ACTION BY DUE DATE
	<p><b>Risk 204:</b> Relocation of AT&amp;T Vault and other utilities delays Work south of Bryant  <u>Discussion:</u> Need to start planning and working with AT&amp;T on their resource allocation with the understanding of their resource constraints. Also need to work with Tutor Perini to define the window they will have now, although it could be a year away. Letters should be sent to TPC to remind them of the importance and their responsibility for coordination with all the utilities. In conjunction to engage the Contractor during the partnering session of this activity. <b>Risk Rating 6</b></p> <p><b>Risk 208:</b> Additional cost to retrieve TBMs at the Pagoda Theatre site exceeds current budget  <u>Discussion:</u> A revised CMod for CN1277 is being circulated will be brought to the CMB for review. <b>Risk Rating 8</b></p>	
2 -	<p><b>Report on Remaining Requirement &amp; Design Risks (Risk rating ≤ 6)</b></p>	
	<p><b>Risk 79:</b> Delay in obtaining tunnel easements (3 #) (goes to condemnation) - Costs of ROW may cost more than expected  <u>Discussion:</u> Overall the RAMP budget shows we are okay. We are still under current budget of \$37M, which includes \$1M in contingency. Nearly all Real Estate work is complete. <b>Risk Rating 1</b></p> <p><b>Risk 104:</b> CPUC approval at Grade Crossing for G0164d takes longer to negotiate / obtain than schedule allows  <u>Discussion:</u> CPUC Resolution (TED-253) for extension of at grade crossing was granted. Need to reapply for extension in 2016 as well as resolve outstanding comment related to Red Cross Buck. <b>Risk Rating 5</b></p> <p><b>Risk T:</b> Delay to final design submittal due to delay of emergency ventilation approval by SFFD  <u>Discussion:</u> Although SFFD Fire Marshall has signed off on review comments, there is a potential for this to be reopened due to new elements added to the CTS headhouse. Right now air replenishment system is no longer required in San Francisco County. A new risk will be developed to address the issue installing a system that is no longer required. <b>Risk Rating 5</b></p> <p><b>Risk V:</b> Incorporation of revised Planning Zoning/ development criteria for Moscone Station TOD impact MOS(YBM) and CTS construction contract.  <u>Discussion:</u> Focus is on the redevelopment of YBM untouched parcels and the parcels to the west. Development of CTS Plaza is occurring; estimated cost is \$7M funded from other sources that will not affect current FTA funds. <b>Risk Rating 3</b></p>	
3-	<p><b>Active Risk Items</b></p>	
	<p><b>Risk PR80</b> ROW costs higher than anticipated.  <u>Discussion:</u> We are within budget. <b>Risk Rating 0 - Risk retired.</b></p> <p><b>Risk 50:</b> Station contractor delayed by tunnel contractor since station contractor cannot break in to the tunnels until the tunnels have been finished.  <u>Discussion:</u> Graphic will be developed of future forecast trend of what we believed the Contractor's productivity will be and overlay that by the geological conditions he is anticipated to encounter. <b>Risk Rating 3</b></p>	


ITEM #	DISCUSSION	ACTION BY DUE DATE
	<p><b>Risk 116:</b> TBM procurement, delivery and assembly takes longer than assumed in schedule. <u>Discussion:</u> <b>Risk Rating 0 - Risk retired.</b></p> <p><b>Risk 196:</b> The process of acquiring station licenses: acquisition/condemnation could significantly delay schedule and cost more than that presently planned. <u>Discussion:</u> Delay of when condemnation is complete needs to be reflected in the monthly schedule. <b>Risk Rating 4</b></p> <p><b>Risk 212:</b> UMS Inclined piles – 8” clearance between piles and tunnel results in damage or safety issues within the tunnel <u>Discussion:</u> Contractor will rely on the accuracy of the special equipment (instrumentation) utilized to install piles according to the plans. <b>Risk Rating 4</b></p> <p><b>Risk 213:</b> Micro Piles exist within tunnel path at UMS – inaccuracies in micro-pile as-built information results in collision with piles. <u>Discussion:</u> Risk not discussed. Updates are reflected on the Risk Mitigation status sheets and will be included in the distribution of these meeting minutes. <b>Risk Rating 4</b></p> <p><b>Risk 216:</b> Olivet building potential construction impact <u>Discussion:</u> Risk not discussed. Updates are reflected on the Risk Mitigation status sheets and will be included in the distribution of these meeting minutes <b>Risk Rating 2</b></p>	
4-	<p><b>New Risks Previously Discussed (Assessment and mitigation strategy)</b></p> <ul style="list-style-type: none"> <li>• Instrumentation for 1252 and 1300 contracts - Wang has agreed to give us last week's progress this week. A letter was sent to Wang requesting they increase their resources - Not a Risk.</li> <li>• Power Pole at CTS - Pole is coming down - Not a Risk</li> <li>• Political Risk – opponents impacting staff productivity - Requires more time than it's worth to track and analyze - Not a Risk</li> <li>• Compensation grouting at Pagoda Site - The Designer is unhappy about their scope of work although they agreed to the scope - Risk to be added to register.</li> </ul>	
5-	<p><b>Other Business - Potential Risk</b></p>	
	<p><b>New Risk –</b> Installing Air Replenishment system which is no longer required. <u>Discussion:</u> How should we move forward to remove from scope, how will it be maintained and certified? Risk Rating TBD</p> <p><b>New Risk –</b> YBM Slurry Wall Clearance <u>Discussion:</u> Need to send a Program response to the Designer's calculations of the clearance between the station wall and the tunnel. Also, obtain a better graphic of the headwalls.</p>	

**ACTION ITEMS –**

ITEM#	MTG DATE	Task #	DESCRIPTION	BIC	DUE DATE	STATUS
4	12/13/12		Risk 72 – 4 <sup>th</sup> & King (SSWP)	S. Pong C. Morganson	12/12/13	Open
2	10/08/13		Risks 212, 211, & 7 - Implement action items	Risk Committee	12/12/13	Open

Meeting adjourned at 5:45pm

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: 12/13/13 [Date review completed.]

## Meeting Agenda

**Project No. M544.1, Contract No. CS-149**  
**Program/Construction Management**  
**Risk Mitigation Management Meeting No. 52**  
**November 12, 2013**  
**2:00pm – 4:00pm**  
 Central Subway Project Office  
 821 Howard St. 2<sup>nd</sup> Floor  
 Main Conference Room

**Attendees:**

Mark Benson		Richard Redmond		Roger Nguyen	
Alex Clifford		Albert Hoe		Eric Stassevitch	
Vivian Chow		Mark Latch		Beverly Ward	
John Funghi		Brad Lebovitz		Luis Zurinaga	

**1. Report on Red Risks (Risk Rating 6 and above)**

- Requirement Risks (83)
- Construction Risks (B, 99, 203, 204, 208)

**2. Report on Remaining Requirement and Design Risks**

- Requirement Risks (79)
- Design Risks (104, T, V)

**3. Active Risks**

- Market Risk (PR80)
- Construction Risks (50, 116, 196, 212, 213, 216)

**4. New Risks (Assessment and mitigation strategy)**

- Instrumentation for 1252 and 1300 contracts
- Power Pole at CTS
- Political Risk – opponents impacting staff productivity
- Compensation grouting at Pagoda Site

Note: **Bolded** numerals indicate that risk is recommended to be retired.



## Meeting Attendance Sheet

**Project No. M544.1, Contract No. CS-149**  
**Program/Construction Management**  
**Risk Management Meeting No. 52**  
**November 12, 2013**  
**2:00 p.m. – 4:00 p.m.**  
 Central Subway Project Office  
 821 Howard Street, 2<sup>nd</sup> Floor  
 Main Conference Room

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

NAME	AFFILIATION	PHONE	E-MAIL (for minutes)	INITIALS
Mark Benson	CSP	415-701-5295	<a href="mailto:Mark.Benson@sfmta.com">Mark.Benson@sfmta.com</a>	MCB
Vivian Chow	SFMTA	415 701-5264	<a href="mailto:Vivian.chow.@sfmta.com">Vivian.chow.@sfmta.com</a>	vchow
Jeffrey Davis	FTA	415 744-2594	<a href="mailto:Jeffrey.s.davis@dot.gov">Jeffrey.s.davis@dot.gov</a>	
Alex Clifford	CSP	415 701- 5275	<a href="mailto:Alex.clifford@sfmta.com">Alex.clifford@sfmta.com</a>	AC
John Funghi	SFMTA	415-701-4299	<a href="mailto:john.funghi@sfmta.com">john.funghi@sfmta.com</a>	JF
Albert Hoe	SFMTA	415-701-4289	<a href="mailto:albert.hoe@sfmta.com">albert.hoe@sfmta.com</a>	AH
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Beverly Ward	CSP	415-701-5291	<a href="mailto:Beverly.ward@sfmta.com">Beverly.ward@sfmta.com</a>	BW
Luis Zurinaga	SFCTA	415-716-6956	<a href="mailto:luis@sfcta.org">luis@sfcta.org</a>	LZ

Risk Register

PROJECT RISK REGISTER												Risk Profile		Severity Score					Legend							
Central Subway Project San Francisco												Likelihood Score	1	2	3	4	5	Probability	Low (1)	Medium (2)	High (3)	Very High (4)	Significant (5)	RISK RATING = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)		
REV : 26												5						< 10%	< 10%	< 10%	< 10%	< 10%	< 10%	< 3 Low	2	
DATE ISSUED: 11/12/13												4						< \$250K	< \$250K	< \$250K	< \$250K	< \$250K	< \$250K	3 - 9 Medium	SCORE = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)	
												3						< 1 Month	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	> 10 High		
												2						< 1 Month	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	> 10 High		
												1						< 1 Month	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	< 1 - 3 Months	> 10 High		
Final Risk ID	Risk Description	Mitigation Description	Risk Category	Probability %	Cost Impact	Schedule Impact	Calc Impact	Calc %	Risk Rating	Score	Status	Must Complete by Date														
Underground Tunnel																										
1	Additional night shift work required at portal launch box due to bus storage facility relocation delay	Work with TJPA to coordinate construction schedules and GGB to coordinate Traffic Routing.	C	2	1	-	1	35%	1	2	No longer considered a risk. GGB not scheduled to be utilizing site until 2014	3/20/15 TUN1160														
2a	42"/48" sewer line relocated as part Utility 1 package is damaged by subsequent construction of the launch box.	1. Make follow-on contractor responsible for repairs to any existing utility lines. 2. Properly as built actual location as part of Utility 1 package and provide to Contract 3 Contractor	C	1	1	2	2	10%	2	3	Sewer Installation complete, awaiting as built drawing. Sewer installed according to contract drawings. Contract 1252 provisions for protection of existing utilities puts all cost and schedule risk on Contractor.	10/24/12 TUN1080														
5	Possibility that lowest level of tie-backs extending out from Moscone Center could be within the tunnel alignment.	1. Lower tunnel alignment 5' below the lowest expected tieback. 2. Include obstruction clause and allowance in contract documents.	C	1	1	1	1	10%	1	2	Contract Documents issued for bid, contain location of tiebacks from as built drawings, do not intersect tunnel alignment.	7/2/13 TUN1118														
7	Potential for excessive settlement of BART tunnels - SIGNIFICANT COMPENSATION GROUT REQUIRED OVER ESTIMATE ALLOWANCES	1. Early and extensive co-ordination with BART. 2. Survey BART tunnels to determine exact locations. 3. Checking effect of maximum expected settlement on tunnels. 4. Require EPBM TBM, Contractor to demonstrate effective control of ground settlements and correction of settlements by compensation grouting, and pre-installation of compensation grout piping under BART tunnels prior to tunneling reaching Market St. Require repair/adjustment plan. 5. Monitor movement of BART tunnels in real-time. 6.. Repair/adjust as needed. 7. Include probable cost in estimate.	C	2	2	2	2	35%	4	8	Risk is considered active, with mitigation measures fully developed . Adjusted cost impact lower resulting in Risk rating increasing to 4 but still remains a low risk.	8/28/13 TUN1120														
8	Flowing groundwater in vicinity of UMS Station could make adequate annulus grouting difficult.	1. Use appropriate additives such as accelerators in primary annulus backfill grouting, if needed. 2. Use secondary grouting as needed.	C	1	1	1	1	10%	1	2	Plans issued for bid contain mitigation measures	8/28/13 TUN1120														
E	Underground obstructions tunnel and retrieval shaft	Include differing site conditions in GPs as well as DRB to adjudicate conflicts and minimize costs	C	2	2	3	3	35%	5	10	Mitigation measures have been implemented. Maintain adequate contingency throughout tunnel construction	2/5/14 TUN1124														
PR1	Actual TBM production rate may be slower than forecasted.	Assign significant liquidated damages for not meeting specific schedule dates.	C	1	1	3	2	10%	2	4	Considered Risk inherent in the work and reflected in the Current Cost Estimate. Risk will be reflected in Contractor's Bid. LDs included in contract.	2/5/14 TUN1124														
13	Damage / settlement 3x 5' to old brick sewer running parallel to tunnel alignment	Slip Line 3'x5' brick sewer before TBM reaches CTS.	C	1	1	-	1	10%	1	1	Tunnel profile has been lowered 25 ft. and plans developed for replacement of at risk utilities in advance of tunnel drive.	12/16/13 TUN1121														
15	Major TBM machine failure	Closely monitor condition and maintenance of the machines.	C	1	2	2	2	10%	2	4	Contractor has indicated that they plan to use a newly manufactured TBM for this project.	2/5/14 TUN1124														
115	Jet grouted station end walls are installed by Tunnel contractor. Station Contractor assumes risk of possibly leakage problems due to insufficiently quality of end walls.	1. In the 1252 contract, have tunnel contractor set aside a pre-determined amount of money in escrow that can be used to repair any leaks encountered by the station contractors after the in the jet grout end walls are excavated. 2. Alternatively, place an allowance in the station contracts for end wall leakage repair.	C	3	1	1	1	50%	3	6	Project configuration changes include headwall designs with multiple levels of redundancy. Warranty provisions added to contact language.	5/26/15 UMS1295														



Risk Register

PROJECT RISK REGISTER												
Central Subway Project San Francisco												
REV : 26												
DATE ISSUED: 11/12/13												
Risk Profile		Severity Score										Legend
Likelihood Score	1	2	3	4	5	Low (1)	Medium (2)	High (3)	Very High (4)	Significant (5)	RISK RATING = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)	
5						< 10%	< 10% - 50%	> 50%	< 75% - 90%	> 90%	< 3 Low	2
4						< \$250K	< \$250K - \$1M	< \$1M - \$3M	< \$3M - \$10M	> \$10M	3 - 9 Medium	
3						< 1 Month	< 1 - 3 Months	< 3 - 6 Months	< 6 - 12 Months	> 12 Months	> 10 High	
2						SCORE = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)						
1												
Final Risk ID	Risk Description	Mitigation Description	Risk Category	Probability %	Cost Impact	Schedule Impact	Calc Impact	Calc %	Risk Rating	Score	Status	Must Complete by Date
B	Storage and testing of excavated soils from tunnel limits advance rate of tunneling.	1. Provide adequate storage and handling facility to accommodate testing activity. 2. Work with SAR to develop acceptance criteria, to minimize or eliminate testing requirements. 3. Require the contractor to provide a detailed workplan for testing, sorting and stockpile prior to hauling.	C	2	3	3	3	35%	6	9	Contractor is attempting to obtain the use of additional Caltrans parcel between Fourth & Fifth and Harrison & Bryant to help facilitate this work and provide additional storage area. .	2/5/14 TUN1124
MOS Station												
21	Incomplete cutoff of groundwater at MOS	1. Require additional grouting to limit leakage to permissible level. 2. Include probable grouting work in cost & schedule estimates.	C	1	1	-	1	10%	1	1	Mitigation measure to be made part of the contract documents	4/28/15 MOS1150
22	Public complaints result in unanticipated restrictions on construction at MOS.	1. Public outreach. 2. Maintain regular and open communications so Public knows construction plans and progress at all times. 3. Require Contractor to assist Public Outreach efforts, maintain access to businesses and assist with deliveries and pick-ups, control noise and vibration, continuously cleanup site, and provide pedestrian and vehicle traffic and protection plans, informational signage, ADA ramps and minimum sidewalk widths. 4. Work with MOED to increase cleanup of the area and assist pedestrians across streets, as needed. 5. Monitor and enforce noise, vibration, ADA, traffic, and cleanup requirements. 6. Quickly process and resolve damage and accident claims from the Public. 7. Assumed this work in cost & schedule estimates.	C	1	1	-	1	10%	1	1	Implementation of mitigation measures part of Communication/Outreach plan and certain aspects to be included in the contract documents.	9/16/16 MOS1230
F	Underground obstructions Stations (MOS)	1. Provide adequate allowance for differing site conditions to address unknown underground obstructions. 2. Show field verified obstructions discovered during previous contracts on contract drawings. 3. Make as-built drawings of structures adjacent to the work available to the contractor as reference drawings.	C	4	2	2	2	80%	8	16	Mitigation measures have been implemented.	4/28/15 MOS1150
27	Loss of business results in unanticipated restrictions on construction at MOS.	1. Public outreach. 2. Maintain regular and open communications so Merchants know construction plans and progress at all times. 3. Require Contractor to coordinate with merchants, maintain access to businesses and assist with deliveries and pick-ups, continuously cleanup site, and provide pedestrian and vehicle traffic and protection plans, informational signage, and minimum sidewalk widths. 4. Require barriers to protect pedestrians and shield them from noise and dirt from construction. 5. Work with MOEWD to increase cleanup of the area and assist pedestrians across streets. 6. Include this work in cost & schedule estimates.	C	1	2	1	2	10%	2	3	Mitigation measures to be implemented and to the extent possible requirements will be written into contract documents to minimize disruptions to businesses.	4/28/15 MOS1150

Risk Register

PROJECT RISK REGISTER												Risk Profile		Severity Score		Legend		RISK RATING = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)								
Central Subway Project San Francisco												Likelihood Score	1	2	3	4	5	Low (1)	Medium (2)	High (3)	Very High (4)	Significant (5)	<3 Low	3 - 9 Medium	>10 High	2
REV : 26												5	4	3	2	1	< 10%	< 10% - 50%	> 50%	< 75% - 90%	> 90%					
DATE ISSUED: 11/12/13																										
Final Risk ID	Risk Description	Mitigation Description	Risk Category	Probability %	Cost Impact	Schedule Impact	Calc Impact	Calc %	Risk Rating	Score	Status	Must Complete by Date														
F	Underground obstructions Stations (UMS)	1. Provide adequate allowance for differing site conditions to address unknown underground obstructions. 2. Show field verified obstructions discovered during previous contracts on contract drawings. 3. Make as-built drawings of structures adjacent to the work available to the contractor as reference drawings.	C	4	2	2	2	80%	8	16	Mitigation measures have been implemented.	8/12/15 UMS 1320														
28	Incomplete cutoff of groundwater at UMS	1. If needed, perform grouting to mitigate the intrusion of groundwater. 2. Include in cost & schedule estimates.	C	1	2	1	2	10%	2	3	Mitigation measures in the form of consolidation grouting to be included in contract documents	8/12/15 UMS1320														
33	Damage to utilities at UMS causes delay to construction and/or consequential cost. (very close to walls adjacent to relocated utility trenches)	1. Intensive utility coordination and investigation. 2. Relocate utilities out of the way of construction wherever possible. 3. Show utilities on reference plans. 4. Have utility contact information and procedure on plans. 5. Have contingency repair/restoration plans. 6. Include probable impacts to schedule & cost in estimates.	C	2	1	1	1	35%	2	4	Although mitigation measure have been fully implemented, Increased probability due to proximity of new pile design to existing relocated utilities.	7/19/16 UMS1410														
34	Loss of business results in unanticipated restrictions on construction at UMS.	1. Public outreach. 2. Work closely with Merchant's Association. 3. Maintain regular and open communications so Merchants know construction plans and progress at all times. 4. Advertise that Stockton Street Merchants are Open for Business. 5. Require Contractor to coordinate with merchants, maintain access to businesses and assist with deliveries and pick-ups, continuously cleanup site, and provide pedestrian and vehicle traffic and protection plans, informational signage, and minimum sidewalk widths. 6. Require barriers to protect pedestrians and shield them from noise and dirt from construction. 7. Work with the Union Square BID or MOED to increase cleanup of the area and assist pedestrians across streets. 8. Include this work in cost & schedule estimates.	C	2	3	2	3	35%	5	10	Mitigation measures to be implemented and to the extent possible requirements will be written into contract documents to minimize disruptions to businesses.	9/7/16 UMS1430														
35	Ground support structure causes groundwater table to rise which results in leakage into adjacent structures. (new structure might create a dam that results into leaks into new and existing structures)	1. Perform detailed hydrogeologic modeling and analysis. 2. Monitor groundwater table at multiple locations and passive measures as necessary to mitigate. 3. Reference the Tech memo in contract documents. 4. Include probable costs in estimate.	C	1	2	-	1	10%	1	2	Mitigation measures incorporated in design based on updated Hydrogeologic analysis and report	9/7/16 UMS1430														
36	Damage to buildings or utilities as a result of heave from jet grouting at UMS.	Utilize tangent piles combined with surface jet grouting.	C	1	1	-	1	10%	1	1	Mitigation measures implemented in contract documents to reduce risk	4/14/15 UMS1310														
37	Damage to adjacent buildings at UMS due to surface construction activities.	1. Require protective barriers. 2. Have an emergency and rapid response customer focused task force to fix damaged facilities. 3. Quickly repair and reimburse resulting costs. 4. Include probable cost in estimate.	C	1	2	-	1	10%	1	2	Mitigation measures implemented in contract documents to reduce risk	9/7/16 UMS1430														
38		1. Direct contractor to dig out the tiebacks on the plans. 2. Include allowance and differing site conditions clause in contract. 3. Include this work in the cost and schedule estimates.	C	2	2	1	2	35%	3	6	Mitigation measures fully implemented, Advance utility relocation contract (1251) confirmed location of tiebacks. Risk rating has been reduced due to a lowering of the probability of event occurring	5/6/14 UMS1170														

Risk Register

PROJECT RISK REGISTER												Risk Profile		Severity Score		Legend		RISK RATING = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)						
Central Subway Project San Francisco												Likelihood Score	1	2	3	4	5	Low (1)	Medium (2)	High (3)	Very High (4)	Significant (5)	<3 Low	2
REV : 26												5	4	3	2	1	< 10%	< 10% - 50%	> 50%	< 75% - 90%	> 90%	3 - 9 Medium	SCORE = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)	
DATE ISSUED: 11/12/13												5	4	3	2	1	< \$250K	< \$250K - \$1M	< \$1M - \$3M	< \$3M - \$10M	> \$10M	>10 High		
Final Risk ID	Risk Description	Mitigation Description	Risk Category	Probability %	Cost Impact	Schedule Impact	Calc Impact	Calc %	Risk Rating	Score	Status	Must Complete by Date												
J	Macy's entrance conflict with new piles	1. Show known obstructions shown on as-built drawings on contract drawings. 2. Make as-built drawings available to contractor as reference drawings. 3. Have contractor field verify obstruction shown on as-built drawings and contract drawings	C	3	1	1	1	50%	3	6	Known obstructions are shown on the ES drawings. Allowance for differing site conditions added to UMS Station contract.	1/23/14 UMS1060												
Q	As-built drawings and UMS construction drawings do not contain enough information to produce shop drawings without significant surveying effort delaying construction north entrance.	1. Investigate if electronic files of design can be given to the contractor. 2. Clearly define shop drawing criteria in the technical specifications. 3. Make as-built drawings available as reference drawings to the contractor	C	3	1	1	1	50%	3	6	Specifications require contractor to survey USG in order to develop shop drawings for structural steel.	3/24/12 UMS1280												
CTS Station																								
46	Public complaints result in unanticipated restrictions on construction at CTS. (schedule and estimate for underground work assumes 6 day work week and 2 shifts per day)	1. Public outreach. 2. Maintain regular and open communications so Public knows construction plans and progress at all times. 3. Require Contractor to assist Public Outreach efforts, maintain access to businesses and assist with deliveries and pick-ups, control noise and vibration, continuously cleanup site, and provide pedestrian and vehicle traffic and protection plans, informational signage, ADA ramps and minimum sidewalk widths. 4. Require barriers to protect pedestrians and shield them from noise and dirt from construction. 5. Work with MOED to increase cleanup of the area and assist pedestrians across streets, as needed. 6. Monitor and enforce noise, vibration, ADA, traffic, and cleanup requirements. 7. Quickly process and resolve damage and accident claims from the Public. 8. Include this work in cost & schedule estimates.	C	2	5	1	3	35%	6	12	Implementation of mitigation measures part of Communication/Outreach plan and certain aspects to be included in the contract documents.	10/9/17 CTS1500												
48	Incomplete drawdown of groundwater. (inside of box and inside of caverns)	1. Require additional grouting to limit leakage to permissible level. 2. Include probable grouting work in cost & schedule estimates. 3. Include allowance for dewatering within cavern during construction.	C	2	2	1	2	35%	3	6	Mitigation measures have been included in contract documents	5/1/16 CTS1140												
50	CTS station contractor delayed by tunnel contractor since station platform construction cannot start until tunnels have been finished.	1. Include provisions in CTS contract identifying the potential waiting period for tunnel contractor. 2. Actively monitor progress towards schedule milestones	C	2	1	2	2	35%	3	6	Constraints on CTS contractor added to specification "Work Sequence and Constraints"	12/16/13 TUN1122												
52	Unacceptable settlement and impact on major utilities at CTS. (OLD SEWERS AND OTHERS WITHIN 20FT SPACE BETWEEN TOP OF CAVERN AND STREET LEVEL)	1. Evaluate effect of potential settlement on utilities. 2. Slip-line sewer by TBM contractor. 3. Reinforce other utilities as needed, monitored during construction, and repair / replace, as needed. 4. Have contingency repair/restoration plan. 5. Utility contact information and procedure will be on plans. 6. Develop an allowance for utility repair. 7. Include probable cost in estimate.	C	3	3	1	2	50%	6	12	Project configuration change, lowered station 25 ft. reducing the probability of this risk. Risk rating lowered.	4/22/16 N-CTS9730												
F	Underground obstructions stations (CTS)	1. Provide adequate allowance for differing site conditions to address unknown underground obstructions. 2. Make as-built drawings of structures adjacent to the work available to the contractor as reference drawings	C	4	2	2	2	80%	8	16	Mitigation measures have been implemented.	10/9/17 CTS1500												
U	Proximity at junction of head house boundary wall and school yard may result in relocation of school yard during wall construction		C	1	1	1	1	10%	1	2	Project configuration changed to eliminate encroachment. Risk converted to Construction risk from Risk 55.	8/16/13 CTS1010												
General																								
Demolition, Clearing, Earthwork																								
Site Utilities, Utility relocations																								
Hazmat, Contaminated Material																								
Environmental Mitigations																								
65	Archeological/Cultural findings during construction increases schedule and/or cost. (Portal) AROUND 10%	1. Provide on-call Archeologist. 2. Provide allowance and procedure in contract for Archeological/Cultural discoveries.	C	1	2	1	2	10%	2	3	Additional boring taken in vicinity of portal indicated no evidence of Archeological/Cultural resources.	10/24/12 TUN1080												

Risk Register

PROJECT RISK REGISTER												Risk Profile					Legend								
Central Subway Project San Francisco												Severity Score													
REV : 26												Likelihood Score	1	2	3	4	5	Probability	Low (1)	Medium (2)	High (3)	Very High (4)	Significant (5)	RISK RATING = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)	
DATE ISSUED: 11/12/13												5	4	3	2	1	Cost Impact	< \$250K	< \$250K - \$1M	< \$1M - \$3M	< \$3M - \$10M	> \$10M	2		
												LOW					MEDIUM					SCORE = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)			
												HIGH													
Final Risk ID	Risk Description	Mitigation Description	Risk Category	Probability %	Cost Impact	Schedule Impact	Calc Impact	Calc %	Risk Rating	Score	Status	Must Complete by Date													
66	Archeological/Cultural findings during construction increases schedule and/or cost.(Moscone) AROUND 10%	1. Provide on-call Archeologist. 2. Provide allowance and procedure in contract for Archeological/Cultural discoveries.	C	3	1	1	1	50%	3	6	Mitigated - Current exposure only to those amount above those currently identified	4/28/15 TUN1150													
67	Archeological/Cultural findings during construction increases schedule and/or cost. (UMS)...LESS THAN 1%	1. Provide on-call Archeologist. 2. Provide allowance and procedure in contract for Archeological/Cultural discoveries.	C	3	1	2	2	50%	5	9	Mitigation measures to be implemented in contract documents	8/12/15 UMS1320													
68	Archeological/Cultural findings during construction increases schedule and/or cost. (CHINA TOWN) ...AROUND 10%	1. Provide on-call Archeologist. 2. Provide allowance and procedure in contract for Archeological/Cultural discoveries.	C	3	1	2	2	50%	5	9	Mitigation measures to be implemented in contract documents	10/9/17 CTS1500													
Auto/bus/van access ways, roads																									
70	Change in traffic control requirements after bid.	1. Provide unit bid items to reimburse contractor for traffic management costs outside their control. 2. Include allowance in construction contracts for PCOs.	C	3	4	1	3	50%	8	15	Mitigation measures implemented.	5/22/17 STS1020													
71	Power supply interruptions to TBM's (no dual power feed currently planned)	Obtain TBM power directly from PG&E substation.	C	1	2	-	1	10%	1	2		2/5/14 TUN1124													
Train Control and Signals																									
72	Interface new Signaling and Train Control system to existing at Fourth and King	Connect new system in parallel with existing system until the new system has been tested and safety certified for operation.	C	2	2	3	3	35%	5	10	Awaiting approval of contract plans by Muni Operations.	3/4/16 STS1045													
PR78	Delays or complication by other SFMTA projects delays CSP: radio, fare collection, C3/TMC	1. Monitor other projects' developments. 2. Develop contingency plans as needed to avoid 1256 delay of revenue service.	C	2	1	1	1	35%	2	4		7/27/12 FDS 1940													
Traffic signals & Crossing Protn.																									
Purchase or lease of Real Estate																									
79	Delay in obtaining tunnel easements (3 #) (goes to condemnation) - Costs of ROW may cost more than expected	1. Engage Owners in negotiations as soon as possible. 2. PM/CM to provide real estate specialists to facilitate.	R	1	1	-	1	10%	1	1	Right of possession obtained on all three parcels. Cost agreement reached with 1455 Stockton & 801 Market.	9/7/2012													
Reloc. of Household or Business																									
Vehicles																									
83	Cost of vehicles are more than estimated	Time the procurement of the vehicles to be part of the procurement of the existing Breda LRVs.	R	3	4	1	3	50%	8	15	CSP vehicles to be included in overall SFMTA vehicle procurement contract.	11/17/17 STS 1500													
Preliminary Engineering																									
89	3rd Party reviews of Design documents delays completion of Final Design.	Provide assistance to 3rd Parties to facilitate their reviews and obtain concurrent partial approval for underground work.	D	1	2	2	2	10%	2	4	3rd Party coordination meeting ongoing.	5/23/12 FDS 1930													
Project Management for Design and Construction																									
95	Contractor default during construction impacts schedule. (key sub-contractor)	Assist Bonding company in transition and to maintain schedule.	C	1	2	2	2	10%	2	4		11/17/17 STS 1500													
99	Breakdown in relationships between SFMTA and Contractors during construction results in increased claims and delays to the overall construction schedule.	1. Executive partnering and alternate dispute resolution. 2. Provide incentives in construction contracts in addition to penalties	C	2	4	1	3	35%	5	10	Mitigation measures being implemented	7/27/12 FDS 1940													
100	Procurement of long lead items delays work. (fans, rails and special track work, TPSS, Escalators, elevators, TBM)	1. Include schedule milestones for procurement of and substantial payment for stored long lead items in contract to encourage early procurement. 2. Monitor procurement of critical items.	C	1	2	2	2	10%	2	4	Not considered a project risk.	11/17/17 STS 1500													
102	Late finish of early contract delays later contracts and extends PM / CM and incurs additional costs	1. Actively manage contracts and include incentive provisions for early completion in critical contracts. 2. Add buffer float to critical path to actively manage schedule contingency	C	2	1	2	2	35%	3	6	LONP 1 & 2 initiated to reduce this risk. See Risk 86. The mitigation of risks associated with early contracts will address this risk. Risk rating reduced due to mitigation measures implemented	12/30/20 MS 0010													
T	Delay on station emergency ventilation approval	1. Work with SFFD to develop a plan acceptable to each party. 2. Incorporate SFFD requirements into construction documents.	R	2	5	-	3	35%	5	10	SFFD agreed to the proposed plan by SFMTA	7/27/12 FDS 1940													
V	Incorporation of revised Planning Zoning/ development criteria for Moscone Station TOD impact MOS and CTS construction contract.	1. Participate and provide input of CSP constraints to SFMTA Real Estate during process of initial task to define best use. 2. Integrate work with SFMTA Real Estate into CSP.	D	2	1	2	2	35%	3	6		12/13/16 N-CTS1225													

Risk Register

PROJECT RISK REGISTER												Risk Profile		Severity Score											
Central Subway Project San Francisco												Likelihood Score	1	2	3	4	5	Low (1)	Medium (2)	High (3)	Very High (4)	Significant (5)	Legend	RISK RATING = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)	
REV : 26												5						< 10%	< 10% - 50%	> 50%	< 75% - 90%	> 90%	< 3 Low	2	
DATE ISSUED: 11/12/13												4						< \$250K	< \$250K - \$1M	< \$1M - \$3M	< \$3M - \$10M	> \$10M	3 - 9 Medium	SCORE = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)	
												3						< 1 Month	< 1 - 3 Months	< 3 - 6 Months	< 6 - 12 Months	> 12 Months	> 10 High		
												2													
												1													
Final Risk ID	Risk Description	Mitigation Description	Risk Category	Probability %	Cost Impact	Schedule Impact	Calc Impact	Calc %	Risk Rating	Score	Status	Must Complete by Date													
PR37	Temporary construction power and ability to provide permanent power feed - PGE ability to provide power requirements to the program together with their other commitment	1. Identify temporary power requirements for station construction. 2. Investigate the timing of the permanent feed.	C	2	1	2	2	35%	3	6	Cost for First and Redundant electrical services need to be included in Cost Estimate.	5/3/18 STS1080													
Insurance, permits etc.																									
103	Difficulty in getting required permits.	1. Coordinate with permit officials and request permits as early as possible. 2. Obtain assistance obtaining permits from PM/CM & FD Consultants.	C	1	2	1	2	10%	2	3		12/18/12 FDS 1275													
104	CPUC approval at Grade Crossing for G0164d takes longer to negotiate / obtain than schedule allows	1. Obtain Grade Crossing approvals at final CPUC inspection at the completion of construction. 2. Coordinate closely with CPUC until approval is received.	R	2	3	2	3	35%	5	10	CPUC Resolution (TED-253) for extension of our at grade crossing was granted.	7/27/12 FDS 1940													
105	Electrical service delays startup and testing.	1. Submit applications for new service as early as possible. 2. Coordinate closely with PG&E to ensure timely delivery of electrical service.	C	1	2	1	2	10%	2	3	Applications for new service have been submitted to PG&E.	11/17/17 STS 1500													
106	Risk of Labor dispute delaying the work.	Enforce designated gate for employees of the contract in dispute so that the rest of the work is not delayed.	C	2	1	1	1	35%	2	4		11/17/17 STS 1500													
Unallocated Contingency																									
111	Major Earthquake stops work	Include Force Majeure clause in contracts.	C	1	5	3	4	10%	4	8	Force Majeure clause included in contracts.	12/30/20 MS 0010													
112	Major safety event halts work	1. Require contractor Safety plan to address this risk. 2. CM inspections to ensure that safety plan and procedures are implemented.	C	1	5	3	4	10%	4	8	Health and Safety provisions included in contracts. CS Program provides full-time Safety Manager.	12/30/20 MS 0010													
196	The process of acquiring station licenses: acquisition/condemnation could significantly delay schedule and cost more than that presently planned.	1. Continue to negotiate with building owners 2. Required Notices and Appraisals to be completed 3. Commence condemnation process with City Attorneys	C		1	1	1	0%	4	-															
202	Cargo Preference (Ship America) must solicit U.S.- flag carriers. Civilian Agencies Cargo = at least 50% (governed by Cargo Preference Act of 1954	1. Require Ship America compliance agreement first tier contractors and subcontractors	C	1	1	1	1	10%	1	2															
203	Headwalls interface delay 1300 Contractor (SSTS)	1. Meet and develop recovery schedule 2. Review possible Adjustment to 1300 interface	C	3	3	2	3	50%	8	15															
204	AT&T Vault - New Sewer Work south of Bryant	1. Continue negotiations/coordination with utility owners. 2. Schedule analysis to confirm coordination	C	2	2	4	3	35%	6	12															
205	Prolong period of CMod's creates additional cost/causes bad blood between Resident Engineer and Contractor	1. CMod Task Force - 5 Areas of Improvement 2. Implement 3. Delegation of Authority	C	3	1	1	1	50%	3	6															
208	Additional cost if we change direction going to the Pagoda	1. Develop Scope with designers currently under contract 2. Agree to alignment and details of new shaft location 3. Issue PCC to Contractor 4. Initial site works and borings if necessary 5. Obtain appropriate permits	C	3	3	2	3	50%	8	15															
210	Mission Bay Loop Grant – Needs to be built to allow for train turnarounds (June 2013)	1. Identify timeline for grant funding	C	4	1	1	1	80%	4	8															
211	Differing site conditions encountered during ground freezing of Cross Passage 5 results in increased costs.	1. Contractor has submitted a 'no cost, no schedule' PCC for ground freezing 2. Need early review of work plan, and identification of entity that will perform the work	C	1	2	2	2	10%	2	4															
212	UMS Inclined piles – 8" clearance between piles and tunnel results in damage or safety issues within the tunnel	1. Establish 1252 and 1300 contract requirements to construct within acceptable tolerances 2. Workshop to be held with BIH to discuss hold points during construction.	C	1	5	3	4	10%	4	8															



Risk Register

PROJECT RISK REGISTER													
Central Subway Project San Francisco													
REV : 26													
DATE ISSUED: 11/12/13													
Risk Profile		Severity Score					Low (1)	Medium (2)	High (3)	Very High (4)	Significant (5)	Legend	RISK RATING = PROBABILITY X (COST IMPACT + SCHEDULE IMPACT)
Likelihood Score	1	2	3	4	5	< 10%	< 10% - 50%	> 50%	< 75% - 90%	> 90%	< 3 Low	2	
5	Yellow	Red	Red	Red	Red	< \$250K	< 1 - 3 Months	> \$1M - \$3M	< 6 - 12 Months	> \$10M	3 - 9 Medium	2	
4	Yellow	Yellow	Red	Red	Red	< 1 Month	< 1 - 3 Months	> \$1M - \$3M	< 6 - 12 Months	> \$10M	> 10 High	2	
3	Green	Yellow	Yellow	Red	Red	< 1 Month	< 1 - 3 Months	> \$1M - \$3M	< 6 - 12 Months	> \$10M	> 10 High	2	
2	Green	Green	Yellow	Yellow	Red	< 1 Month	< 1 - 3 Months	> \$1M - \$3M	< 6 - 12 Months	> \$10M	> 10 High	2	
1	Green	Green	Green	Yellow	Yellow	< 1 Month	< 1 - 3 Months	> \$1M - \$3M	< 6 - 12 Months	> \$10M	> 10 High	2	
Final Risk ID	Risk Description	Mitigation Description	Risk Category	Probability %	Cost Impact	Schedule Impact	Calc Impact	Calc %	Risk Rating	Score	Status	Must Complete by Date	
213	Micro Piles exist within tunnel path at UMS	1. Re-profile and realign tunnel to clear micropiles	C	2	3	1	2	35%	4	8			
214	Micro Piles at UMS interfere with Tube-a-manchette installation (60' deep micropiles)	1. Provide micro-pile as-built information to contractor 2. Realign tube-a-manchettes clear of micro-piles	C	3	1	1	1	50%	3	6			
215	DPW Excavation permit reviews delay contract works	1. Obtain a blanket excavation permits from DPW covering the area of work for 1253, 1254, 1255, 1256	C	2	1	1	1	35%	2	4			
216	Olivet building potential construction impact	1. Reach out to building owner and keep him abreast of CS construction activities.	C	1	1	2	2	10%	2	3			
217	Delays or complications construction by others – SF Dept. Of Technology, 3rd party utilities	1. Early engagement and coordination for agreements and plan development to avoid construction delays.	C	2	1	1	1	35%	2	4	DTIS MOU has been signed.		
218	Compensation Grouting at Pagoda Site		C					0%	-	-			
219	Installation of Air Replensment System - Element no longer required by SFFD		C					0%	-	-			
220	YBM - Headwall Clearance - Proximity to TBM penetration		C				-	0%	-	-		0	



**Risk Mitigation Status**  
**Risk Reference: 50**

Risk	Mitigation Strategy
Station contractor delayed by tunnel contractor since station contractor cannot break in to the tunnels until the tunnels have been finished.	1. Include Milestone dates in Tunnel Contract when the turnover of tunnels to CTS contractor has to occur. 2. Actively monitor progress towards schedule milestones. 3. Add constraints in CTS contract specification.

**Initial Assessment:** 3, 4, 11  
**Current Assessment:** Risk Rating 3 – Construction Risk

**Risk Owner:** M. Benson

**Status Log:**

September 24, 2009 Meeting:

- Attendees agreed that an LONP is one item that would alleviate this risk.
- A request for an LONP is presently being prepared. It appears at this time that an LONP has a good chance of being granted.

February 2012:

- Constraints on CTS contractor added to specification sections Work Sequence and Contract Interface.
- LONP was granted by FTA for construction of the launch box.

March 2013:

- Contract 1300 Specification section 01 12 17, 4 a) – tunneling equipment to be removed from CTS 450days following NTP (timeframe approved through CMB and included in CN 1300 addendum 3).

April 2013:

- Discuss revising this risk description to 'break into tunnel delayed by 1252 contractor' as applicable to the 1300 contract.
- Specification timing for tunneling equipment to be removed from UMS and YBM to be checked
- Current 1252 cross passage completion dates and 1300 tunnel break in dates (if NTP June 20, 2013):

<b>Contract 1252</b>			<b>Contract 1300</b>		
Milestone (complete)	Contract constraint (days following NTP)	Current Milestone date	Milestone	Contract Constraint (days following NTP)	Milestone Date (if NTP June 20, 2013)
CP1	851	6/4/14	Break into tunnel CTS	450	9/13/14
CP2, CP3 & 4	851, 915	6/4/14, 8/6/14	Break into tunnel UMS	620	3/2/15
CP5	Not a milestone	8/8/14	Break into tunnel YBM	620	3/2/15
Tunnel Substantial completion	1157	4/10/15	Tunnel Portal Access	830	9/28/15

May 2013:

- PMCM will continue to monitor the interface between the 1252 and 1300 contracts.
- No change to report.

**Risk Mitigation Status****Risk Reference: 50**

June 2013:

1. PMCM continue to monitor the interface between the 1252 and 1300 contracts.

Nov 2013:

1. Contract 1252 milestones were delayed in October because of delays to the Northbound TBM assembly and testing.
2. Concurrent delays to the Retrieval Shaft are also having an impact to 1252 Milestones 1 & 2.
3. Future forecast trend to be developed considering progress to date, and expected progress for the remaining work and geological conditions (i.e. boring through rock)
4. Central Subway team to check that BIH recovery schedule uses reasonable assumptions based on expected progress

	CN1252 Contract Requirement**	CN1252 Oct Finish	CN1300 Requirement	1252 Oct & 1300 Variance	
YBM Headwalls Complete	N/A	20-Sep-14 A	31-Jul-13	(51)	CD
UMS Headwalls Complete	N/A	8-Nov-13	14-Sep-13	(55)	CD
CTS Tunnel Interface Complete 1252 MS 1 - Complete Cross Passages 1&2 (CTS)	10-Jun-14	9-Jul-14	9-Sep-14	62	CD
UMS Tunnel Interface Complete 1252 MS2 - Complete Cross Passages 3&4 (UMS)	13-Aug-14	29-Aug-14	26-Feb-15	181	CD
YBM Tunnel Interface Complete	N/A	30-Sep-14	26-Feb-15	149	CD
1252 Tunnel Substantial Completion	12-Apr-15	11-May-15			
Tunnel Portal Completion 1252 Tunnel Final Completion	12-May-15	8-Jun-15	24-Sep-15	108	CD

\*\* Includes PCC10 &amp; COR8

<b>Risk Mitigation Status</b>
<b>Risk Reference: 79</b>

Risk	Mitigation Strategy
Delay in obtaining tunnel easements (3 #) (goes to condemnation) - Costs of ROW may cost more than expected	<ol style="list-style-type: none"> <li>1. Engage Owners in negotiations as soon as possible.</li> <li>2. PM/CM will provide real estate specialists to facilitate.</li> </ol>

**Initial Assessment:** 2, 3, 6  
**Current Assessment:** Risk Rating 1 – Requirement Risk

**Risk Owner:** A. Clifford

**Status Log:**

October 2011 Meeting:

1. All Tunnel easements have been acquired.
2. Recommend to retire this risk from the project.
3. This risk will be revisited next month since not all easements have been obtained

November 2011 Meeting:

1. Right of entry received for properties requiring easement.
2. Costs have been identified through appraisals of properties.
3. Actual value of easements needs to be negotiated with property owners.
4. Added mention of battered piles at UMS headwalls to the risk description as they will cross property lines.

December 2011:

1. Right of possession for each of the three required parcels has been obtained.

January 2012 Meeting:

1. City Attorney's Office is finalizing final easement deed language and price for all three easements.
2. To date owners of 801 Market and 1455 Stockton have agreed to purchase price of easement.
3. Awaiting cost agreement with 790 Market.
4. Recommend to reduce the risk rating.
5. Risk rating reduced to 1, 1, 1.

February 2012 Meeting:

1. SFMTA is working with City Attorneys Office to finalized easement deed indemnity language for the 790 Market easement.

March 2012 Meeting:

1. SFMTA has provided the City Attorney's Office with additional information regarding tunnel and station related settlement at 790 Market. This information will be shared with the property owner at 790 Market in order to address their concerns of settlement and requests to include certain indemnity language in the tunnel easement. Current draft of the tunnel and station grouting licenses contain the requested indemnity language; CCSF Risk Manager, SFMTA and City Attorney do not feel owner's request for indemnity is appropriate in the easement deed.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 79</b>
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April 2012 Meeting:

1. No update from the March report-out.

May 2012 Meeting:

1. No update from the March report-out.

June 2012 Meeting:

1. No update from the March report-out.

July 2012 Meeting:

1. No update from the March report-out.

August 2012 Meeting:

1. The SFMTA has agreed to a final purchase price for the 801 Market and 1455 Stockton easements. 801 Market will transfer title (of the easement) through a purchase and sale agreement and 1455 Stockton will transfer title through a stipulated agreement. Final purchase price negotiations for easement under 790 Market are ongoing.

September 2012 Meeting:

1. Central subway has pre-possession for all 3 easements.
2. Negotiations continue on terms and conditions for 801 Market and 1455 Stockton.
3. Negotiations continue on final purchase price for 790 Market easement.

October 2012 Meeting:

1. Central subway has pre-possession for all 3 easements.
2. The SFMTA has executed a final stipulation agreement for possession of the easement under 1455 Stockton and all remaining funds have been transferred to the property owner.
3. Negotiations continue on terms and conditions for 801 Market.
4. Negotiations continue on final purchase price for 790 Market easement.

November 2012 Meeting:

1. Central subway has pre-possession for all 3 easements.
2. The SFMTA has executed a final stipulation agreement for possession of the easement under 1455 Stockton, final transfer of funds is pending signature of the easement deed from the property owner.
3. Negotiations continue on terms and conditions for 801 and 790 Market.

December 2012 Meeting:

1. Central subway has pre-possession for all 3 easements.
2. Final transfer of funds for 1455 Stockton easement is pending signature of the easement deed from the property owner.
3. Negotiations continue on final purchase price, terms and conditions for 801 Market and 790 Market Easement Agreements.

February 2013 Meeting:

1. Central subway has pre-possession for all 3 easements.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 79</b>
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2. Purchase and Sale Agreements for the 1455 Stockton easement and the 801 Market have been finalized. Final execution is pending the receipt of stamped and signed legal descriptions and plat maps from the San Francisco County Surveyor.
3. Negotiations continue on final purchase price, terms and conditions for the 790 Market Easement Agreement.

March 2013:

1. 1455 Stockton and 801 Market easement deeds executed by SFMTA Director.
2. 790 Market price and terms are still being negotiated.

April 2013:

1. Risk owner changed from G. Hollins to A. Clifford
2. 790 Market Street - The current difference between the Central Subway offer and the owners valuation + severance damages is \$280,000

October 2013:

1. Owners appraised easement value has been included in RAMP update 5

November 2013:

1. Program Director and building owner discussing path to resolution of the 790 Market easement negotiation

<b>Risk Mitigation Status</b>
<b>Risk Reference: 83</b>

Risk	Mitigation Strategy
Cost of vehicles are more than estimated	1. Time the procurement of the vehicles to be part of the procurement of the SFMTA LRV procurement contract.

**Initial Assessment:** 1, 1.5, 2  
**Current Assessment:** Risk Rating 8 – Requirement Risk

**Risk Owner:** L. Ames

**Status Log:**

April 2012 Meeting:

1. Fleet procurement plan needs to be checked with Fleet agency.
2. Lewis Ames is working at a program level with Operations to look at alternatives and options for procurement.

May 2012 Meeting:

1. An RFP is being developed by CH2M Hill for high-floor vehicles.
2. SFMTA will attempt to attach the procurement of the four CS vehicles to a procurement contract of another transit property that is currently pursuing procurement of vehicles.

June 2012 Meeting:

1. No status update.

September 2012 Meeting:

1. CH2M Hill is now preparing an update of the LRV Procurement Plan. CH2M Hill is working under for SFMTA Transit and led by John Haley’s staff under an on-call contract to support the update and help integrate the RFP vehicle specification process led by Elson Hao
2. Julie Kirschbaum, Manager of Service Planning/TEP is leading an effort to produce a new city-wide travel forecast as the means to support the capacity need for LRV fleet plan requirements in 2025.

The Plan is expected to be circulated, presented, approved; in 2012 etc. specific next steps in the 3rd and 4th quarters of 2012 will be provided in the next report.

3. The Procurement Plan is expected to include assessing the feasibility for SFMTA to attach the procurement of the four CS vehicles to a procurement contract of another transit property that is pursuing procurement of vehicles.

October 2012 Meeting:

1. Risk increased from (1,2, 2) to risk rating (4,4,16)
2. There is a possibility that the cost of the LRV significantly exceed the budget
3. Risk to be reviewed next meeting, status of LRV procurement plan to be advised





<b>Risk Mitigation Status</b>
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<b>Risk Reference: 83</b>
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March 2013:

1. Central Subway completed a Memorandum of Agreement with SFMTA transit division to establish the phases, costs, scope and timing of initial LRV procurement activities resulting in an LRV procurement RFP in May 2013, and vendor selection early 2014.

April 2013:

1. The RFP Package due May 2013 is expected to be complete on time.

May 2013:

1. Request for Qualifications for new LRV's was released in March
2. Responses were due April 22
3. The review process is now underway with the results of the review due late June
4. Procurement of 175 cars
5. Award expected in 2014
6. First cars expected in 2016

June 2013:

1. APTA meetings were held. One on one interviews with individuals who responded to the RFQ
2. Feedback comments on specification are being incorporated into the RFP to be released in June
3. Schedule impact has been lowered to a risk rating of (1).
4. Current assessment is an 8

July 2013

1. RFP now scheduled for SFMTA Board approval in August prior to release.
2. Currently routing and vetting internal approvals for submission to Board

September 2013

1. Due to the purchase of the vehicles no long being a sole source order the risk description will be revised to reflect the current purchase status.

October 2013:

1. RFQ released March 29, 2013 identified three qualified bidders to participate in procurement for Light Rail Vehicles (LRV4). Statement of Qualifications received April 22nd, 2013.  
Four car builders, AnsaldoBreda, CAF USA Inc, Kawasaki Rail Car Inc, Siemens Industry Inc, are requested to submit proposals in response to RFP.
2. SFMTA Board approved the issuance of the RFP September 3, 2013 to procure up to 260 LRV4s.
  - a. Base order will be 175 – 24 expansion +151 replacement LRV4s.
  - b. Option for 85
3. The Notice of Advertisement, the RFP and specifications are now on the CCSF Office of Contracts web site:  
<http://mission.sfgov.org/OCABidPublication/BidDetail.aspx?K=7262>

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 83</b>
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The scope covers design, manufacture, test, parts, special tools, manuals and training.

4. Pre-bid Conference: 10/29/2013 10am at SFMTA Muni Metro East Facility 601 25th St., 2nd Fl., Rm. 235

Bids Due: 2 pm 12/10/2013

5. Project Management Plan will be drafted and be in place prior to NTP.

6. Challenges: Extended procurement includes time gap between delivery of first 24 cars and 151 cars that requires FTA approval; funding and financing sources not clear

November 2013:

1. Await bid opening 12/10/13

<b>Risk Mitigation Status</b>
<b>Risk Reference: 99</b>

Risk	Mitigation Strategy
Breakdown in relationships between SFMTA and Contractors during construction results in increased claims and delays to the overall construction schedule.	<ol style="list-style-type: none"> <li>1. Executive partnering and alternate dispute resolution.</li> <li>2. Train staff in adherence to issue resolution process</li> </ol>

**Initial Assessment:** 5, 3, 8  
**Current Assessment:** Risk Rating 5 – Construction Risk

**Risk Owner:** M. Benson

**Status Log:**

February 2012 Meeting:

1. Mitigation measures being implemented.
2. Incentives not being used due to legal obstacles.
3. Recommend to reduce the risk rating.

December 2012:

1. The combined contract will reduce the number of interfaces between contracts and potential for relationships to become strained
2. The CMod process is being improved for quicker resolution of change orders
3. Mitigation 2 - 'Provide incentives in construction contracts in addition to penalties' was removed from the mitigation strategy as this is not being used (as noted in the February 2012 update).

March 2013:

1. A breakdown in the relationship has occurred due to untimely resolution of changes and unresolved contract interpretation issues.
2. SFMTA CMod SWAT team dedicated to processing changes has been implemented to improve the performance of change processing.
3. This improvement has been recognized by both parties.
4. An issue resolution process has been formalized to address disputes and avoid claims.

April 2013:

1. The issue resolution process is not being followed consistently. BIH are not responding in a timely manner and are revisiting prior agreements in the issue resolution process.
2. Brian Kelleher is developing observations and training for adherence to issue resolution process.

May 2013:

1. New Issue Resolution Ladder process presented at the CMB

June 2013:

1. The first meeting was held with BIH on May 21<sup>st</sup>, 2013 utilizing the refined issue resolution process that was presented to the CMB in May with positive results. A follow up meeting is being held June 14<sup>th</sup> to further refine the process.
2. Staff training in the issue resolution process is ongoing.
3. A similar meeting with Tutor Perini will be held in future.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 99</b>
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October 2013:

1. Issue resolution ladder is not working as intended and is to be discussed at the next partnering session

November 2013:

1. Issue resolution ladder to be discussed at next partnering meeting to be held 11/18/13.
2. Risk rating reduced as relationship with 1252 Contractor has improved
3. Risk rating reduced to 5. Probability (2) 10-50%, Cost Impact (4) \$3m-\$10m, Schedule Impact (1) < 1 month.

<b>Risk Mitigation Status</b>
<b>Risk Reference: 104</b>

Risk	Mitigation Strategy
CPUC approval at Grade Crossing for G0164d takes longer to negotiate / obtain than schedule allows	<ol style="list-style-type: none"> <li>Grade Crossing approvals are not received until final CPUC inspection at the completion of construction.</li> <li>Close coordination with CPUC will continue until approval is received.</li> </ol>

**Initial Assessment:** 2, 3.5, 7  
**Current Assessment:** Risk Rating 5 – Construction Risk

**Risk Owner:** S. Pong

**Status Log:**

September 2011:

- Providing preview of 90% submittal to CPUC and will resolve comments/issues from PE before finalizing design documents.

January 2012 Meeting:

- Design team conducted informal review meeting with CPUC on 12/6/11 in preparation for 1256 pre-final submittal. CPUC provided 5 comments at the meeting that will be incorporated by the designers:
  - Evaluate curb extension at Portal
  - Evaluate curb tapering or end treatments
  - Evaluate train coming sign at 4<sup>th</sup>/Bryant and 4<sup>th</sup>/Brannan
  - Evaluate black out/no left turn sign
  - Evaluate guide stripping
- CPUC issued Resolution SX-92 granting SFMTA approval to construct the new and modified grade crossings in March 11, 2010. This approval is good for 3 years.
- SFMTA will need to file for an extension of SX-92 at least 30 days before March 11, 2013.
- SFMTA will need to file CPUC Form G within 30 days after the completion of construction.
- Recommend to reduce this risk rating.
- Risk rating reduced to 2, 2.5, 5.

April 2012 Meeting:

- CPUC review comments are being incorporated into the 100% contract documents.

May 2012 Meeting:

No update.

July 2012 Meeting:

- CPUC reviewed and approved 11 of 12 comments noted on RCF-066. RCF-66 Comment 49 remains open with no CPUC concurrence or Verification. Comment 49 states the Muni standard Red X "Crossbuck" signal is not consistent with MUTCD standards and is strongly discouraged by the CPUC for new construction. Comment 49 will be resolved with CPUC to assure successful application of SX-92 for new and modified grade crossings due February 11, 2013.



<b>Risk Mitigation Status</b>
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<b>Risk Reference: 104</b>
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August 2012 Meeting:

1. Mitigation measures to be discussed with CPUC at the August 16, 2012 Safety and Security Meeting.
2. State PUC to review documents, validate and sign off.

September 2012 Meeting:

1. Meeting held with CPUC.
2. Document review ongoing.

October 2012 Meeting:

1. Requirements have been incorporated into the design documents
2. Letter to be sent to CPUC for concurrence

November 2012 Meeting:

1. Confirmation of concurrence is being sought from PUC and is expected to be received by February 2013

December 2012:

1. Approval by the CPUC is given for a specific window of time, and if need another approval will need to be requested.
2. Follow up on letter sent to CPUC for concurrence

January 2013 Meeting:

1. A request for a continuance from CPUC will be sent.

February 2013 Meeting:

1. A letter requesting an extension (continuance) was sent to CPUC February 8<sup>th</sup> 2013 and is now being processed.
2. The letter was vetted with CPUC for comments prior to being sent.

March 2013:

1. Extension of the timeframe to complete the construction of at grade crossings by 3 years was received from CPUC March 6<sup>th</sup> 2013
2. Discuss transferring this risk to CM team

April 2013:

1. Construction, testing, and safety requirements need to be met to enable CPUC signoff at completion.
2. Another request for extension will need to be submitted if construction and approval is not received by January 1<sup>st</sup> 2016.

May 2013:

1. Discuss transferring to Construction Risk and maintain current risk owner.
2. Risk has been transferred to a Construction category, Risk owner remains as Sanford Pong
3. Final form approval from CPUC will be given after construction completion.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 104</b>
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July 2013

1. Confirmed design issues have been resolved and agreed to with CPUC, schedule extension granted. Schedule Extensions are for a maximum of three years, another request will need to be generated in 2016.

September 2013:

1. One comment remains open regarding the 'crossbuck" on. Resolution is still pending.

November 2013:

1. CPUC Resolution (TED-253) for extension of at grade crossing was granted. Need to reapply for extension in 2016 as well as resolve outstanding comment related to Red Cross Buck.

**Risk Mitigation Status**

Risk Reference: 116

Risk	Mitigation Strategy
TBM procurement, delivery and assembly takes longer than assumed in schedule.	1. Allow adequate time to allow procurement of TBM in MPS. 2. Provide Notice to Contractor on time concerns

Initial Assessment: 3, 1, 3

Current Assessment: Risk Rating 4 – Construction Risk

Risk Owner: M. Benson

**Status Log:**

February 2012:

1. Mitigation strategy #1 “The most likely delay to TBM procurement and delivery, on the order of 2 or 3 months, could be accommodated with current float shown on the construction schedule” was removed.
2. Mitigation strategy #2 “Include milestones in contract for procurement of TBM” was not used.
3. Contract includes substantial completion requirements including liquidated damages for delay in completion by milestone date.
4. NTP 1 for TBM procurement was issued on 1/27/12.
5. Contractor has estimated 10 months to procure and deliver TBM to site.
6. LOPN2 was approved by FTA to build launch box and MOS headwalls.
7. Recommend to reduce this risk rating.

April 2012:

1. BIH has entered into a contract with Robbins to procure two TBMs; one to be delivered no later than January 2013 and one no later than February 2013.

April 2013:

1. The 1<sup>st</sup> TBM is arriving this month, the 2<sup>nd</sup> TBM is due to arrive in June this year.
2. BIH are procuring a gantry crane for the TBM assembly, if the gantry crane is not approved for use adjacent to the I-80 bridge an alternate crane would need to be sourced. The delay due to this is expected to be less than 1 month.
3. **Recommend reducing this risk rating to 3 (2, 2, 1)** (reduced schedule impact associated with sourcing another crane)
  - a. Current probability (2), 10 - 50%, maintain probability rating
  - b. Current cost impact (2), \$250k - \$1m, maintain cost impact
  - c. Current schedule impacts (2), 1 -3 months, recommend reducing schedule impact to (1), <1month

June 2013:

1. BIH received approval from Caltrans to use their proposed gantry crane.
2. TBM # 1 arrived April 25<sup>th</sup>, 2013 and assembly has been completed. Assembly of TBM 1 was planned to take 6 weeks, with an actual assembly time of approximately 8 weeks. Contractor is working additional shifts to minimize delay resulting in little impact to the schedule.
3. TBM #1 is scheduled to be launched June 24<sup>th</sup>, TBM # 2 is schedule to arrive July 2<sup>nd</sup>.

July 2013

1. Assembly of TBM #1 was originally scheduled to take 35 days and has taken approximately 45 days to date.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 116</b>
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2. The recovery schedule submitted by BIH this shows 35 days for assembly and commissioning of TBM 2.
3. BIH have advised that the timeframe for assembly and commissioning of TBM 2 is achievable as delays affecting the assembly of TBM 1 (late tail shield, delay in gantry crane erection) will not be experienced in the assembly of TBM 2. Also, preparation of TBM 2 was further advanced in the factory prior to delivery, and lessons learned from assembly of TBM 1 will be incorporated into assembly of TBM 2.

Nov 2013:

1. SB TBM (# 1) assembly and testing took 72 work working days. The assembly and testing is work was supposed to take 35 working days in the baseline schedule.
2. NB TBM (#2) assembly and testing took 55 working days plus some concurrent work on the shield welding with the launch of the Southbound TBM. The assembly and testing is work was supposed to take 35 working days in the baseline schedule and Recovery Schedule 4. This caused a 29 calendar day to Substantial Completion in October 2013. BIH is currently working on a Recovery Schedule.
3. Risk retired by the risk committee

<b>Risk Mitigation Status</b>
<b>Risk Reference: 196</b>

Risk	Mitigation Strategy
<p>The process of acquiring station licenses: acquisition/condemnation could significantly delay schedule and cost more than that presently planned.</p>	<ol style="list-style-type: none"> <li>1. Continue to negotiate with building owners</li> <li>2. Required Notices and Appraisals to be completed</li> <li>3. Commence condemnation process with City Attorneys</li> </ol>

**Initial Assessment:** new risk

**Risk Owner:** A. Clifford

**Current Assessment:** Risk Rating 4 – Construction Risk

**Status Log:**

September 2012 Meeting:

1. Risk 57 retired August 2012. New Risk 196 opened.
2. To date 9/27 required Station Licenses have been signed by the respective property owners.
3. 5/27 have reached verbal agreement or have been sent to the owner for signature.
4. 13/27 Licenses are outstanding
  - a. 7 of the 13 outstanding Licenses are progressing toward agreement
  - b. The Program team is currently preparing for condemnation on the following 6 Licenses should
    - 1 Stockton (Apple) & 212 Stockton (Bulgari) (same property manager)
    - 216 Stockton (Dior)
    - 39 Stockton (Disney)
    - 19 Stockton (Armani) – unresponsive owner
    - 250 Fourth Street (Olivet University)
5. Targeting Board of Supervisors 10/23/12
  - a. remaining Notice of Intent to Appraise mailed 8/30/12
  - b. finalize list of condemnation properties by 9/14/12
  - c. remaining appraisals to be completed by 9/20/12
  - d. meeting with board clerk 9/21/12
  - e. government code offer letters to be sent by 9/27/12

November 2012 Meeting:

1. To date;
  - a. 11/27 required station licenses have been signed by the respective property owners.
  - b. 4/27 have reached verbal agreement or final drafts have been sent to the owner to sign.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 196</b>
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- c. 12/27 Station licenses remain outstanding, 3 of which are being negotiated with the a single property owner (Macy's) and are expected to reach agreement.
2. 9/27 Remaining station licenses + 2 remaining tunnel easements (Central Subway has possession of the two tunnel easements) have been calendared for the December 11<sup>th</sup> Board of Supervisors Hearing.
  - a. Central Subway project team and the City Attorney's office submitted draft Resolutions of Necessity to the Clerk of the Boards office November 5<sup>th</sup>.
  - b. The Central Subway Project team continues to negotiate with the property owners.
  - c. The required access for compensation grouting and building monitoring is expected approximately May 10<sup>th</sup> 2013 should this need to be obtained through the eminent domain process.

April 2013:

1. Outstanding Tunnel & Station Group A licenses: (a, b and c do not have the condemnation option available at this time)
  - a. **Macy's 3 properties** – licenses for the remaining 3 properties to be sent to Macy's 4/11/13 (233 Geary, 120 Stockton, 101 Stockton)
  - b. **1013-1015 Stockton Street** – the final agreement was hand delivered to the owners representative for signature 4/10/13. Signature of the 3 owners is expected by 4/19
  - c. **3 Pagoda properties** (725 Filbert, 659 Columbus, 1717 Powell) – details and offer letters have been sent to owners
  - d. 950 Stockton Street – Central Subway continues to negotiate with the HOA and land owner while working with the City attorney to commence condemnation if agreement cannot be reached by 4/19
  - e. 216 Stockton – resolving final issues with owner (condemnation to commence 4/19 if agreement cannot be reached)
  - f. 1 Stockton and 212 Stockton – final agreement sent to owner for signature 4/9/13
  - g. 1455 Stockton Street – condemnation suit filed 4/9/13, possession estimated mid August 2013
  - h. 19 Stockton Street – condemnation suit filed 2/13/13, possession estimated 7/6/13

July 2013:

1. 4 Licenses to be obtained by SFMTA are outstanding
  - a. 659 Columbus Ave (1252 Contract)
    - License has been verbally agreed and sent to the owner for signature (expecting signed agreement by 7/15).
    - The Program has not prepared to condemn this license.
  - b. 1455 Stockton (1252 Contract)
    - The pre-judgment possession hearing scheduled for 7/9/13 has been continued to 7/23/13. Estimated possession date is now 8/26/13.
    - The project team continues to seek resolution of the license through negotiation with BofA and the owner.
  - c. 950 Stockton (1300 Contract)
    - Condemnation action filed 7/8/13. Possession of the license is estimated to be late November 2013.
    - The project team continues to work with the Mandarin Tower Homeowners Association (HOA) and the owner to reach agreement. Currently the Project team is requesting the HOA to sign the agreement with a condition that compensation grouting work cannot proceed until agreement from the landowner is received.
  - d. 19 Stockton (1300 Contract)
    - Condemnation suit filed 2/13/13.
    - The owner has engaged trial condemnation attorneys and is challenging the City's 'right to take' this license.
    - The pre-judgment possession hearing originally scheduled for 6/7/13 and was continued by the court.
    - City attorney availability pushed pre-judgment possession hearing date to early August 2013.



**Risk Mitigation Status**

**Risk Reference: 196**

- Owner attorney availability pushed pre-judgment possession hearing date September 9<sup>th</sup> 2013. If the motion for pre-judgment possession is successful, possession of the license would be obtained approximately October 11<sup>th</sup> 2013.

October 2013:

1. 950 Stockton Street

a. Negotiation

- Signed license received from MTOA
- Negotiation continues with property owners

b. Condemnation

- Signed disclaimers of interest have been received from most owners of record who can now be dismissed from the condemnation action
- Condemnation continues as summarized below (also see attached graphic)

File motion to court for service/summons via publication	10/11/2013	
	35	days
Court decision on service via publication (estimated date)	11/15/2013	
	5	days
Publish summons (once a week for 4 weeks)	11/20/2013	
	30	days
Publication period (court date set following 30day period)	12/20/2013	
	90	days
Pre-judgment possession hearing	3/20/2014	
	5	days
File documents with court & serve 30 day notice to owners 'notice of entry of order'	3/25/2014	
	20	days
Serve 10 day notice to owners (not an eminent domain requirement)	4/14/2014	
	10	days
Possession of license	<b>4/24/2014</b>	

2. 19 Stockton Street

- a. Pre-judgment possession hearing held 9/26/13  
Pre-judgment possession granted 10/4/13  
Possession 30days following service to owner – early November
- b. Right to take hearing 11/18/13
- c. Compensation Trial 3/10/14

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 196</b>
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November 2013:

1. 950 Stockton Street
  - a. Signed licenses received from MTOA and basement condo owner
  - b. Conference call held with Owners attorney and engineer 11/8/13. SFMTA to send a revised agreement incorporating comments discussed on the call to owner for review.
  - c. City attorney's office is preparing motion for service via publication which is the next step in the condemnation process. This step is occurring 1 month later than anticipated (delays due to 19 Stockton defense preparations).
  - d. Revised condemnation dates to be included in next schedule update.

**Risk Mitigation Status****Risk Reference: 203**

Risk	Mitigation Strategy
Headwalls interface delay 1300 Contractor	1. Meet and develop recovery schedule 2. CM to review possible Adjustment to 1300 interface 3. Ensure contractor is notified (via letter) of their obligations under the contract

**Initial Assessment:** 3, 2, 8**Risk Owner:** M. Benson**Current Assessment:** Risk Rating 8 – Construction Risk**Status Log:**

December Meeting 2012:

1. Identified Risk and refined risk statement together with development of mitigation strategies.

January 2013:

1. Delay has already begun, roughly six weeks behind schedule.
2. Meeting with BIH will take place to discuss a recovery schedule.

February 2013 Meeting:

1. BIH and their sub CJN JV have re-sequenced the headwall work at Union Square so the completion date is now back on schedule with the CN 1300 milestone interface date with the CN 1252 headwall completion.

March 2013:

1. Contractor has experienced delay installing the first 4 secant piles.
2. Work has been re-sequenced, and BIH are working 2 shifts (5days per week) and a single shift Saturday.
3. Contractor is back on schedule.

April 2013:

1. Contractor is currently working 2 shifts, 6days per week and bringing additional plant to site.
2. Contractor is preparing a revised recovery schedule.
3. The current projected completion date for the headwalls is October 3<sup>rd</sup> (assumed production of 2 ½ piles per week)
4. A letter is to be prepared and sent to BIH summarizing the history of events contributing to the current delay, reaffirming the applicable liquidated damages under the contract and placing BIH on notice that additional resources and improved planning is required to address this delay.

May 2013:

1. The contractor has re-sequenced the work with a new forecast completion date of August 15<sup>th</sup> (south headwall) and September 25<sup>th</sup> (north headwall).
2. 1300 Contractor has access 90 days following NTP (approximately September 7<sup>th</sup> – subject to NTP date).
3. Tutor preliminary schedule indicates that current completion dates should not impact the 1300 contractor.

**Risk Mitigation Status****Risk Reference: 203**

June 2013:

1. Contract 1300 requirements (assuming NTP June 14<sup>th</sup> 2013 compared to Contract 1252 May Preliminary Schedule completion dates;

	<b>CN1300 Requirement</b>	<b>1252 May Update Activities</b>	<b>1252 May Finish</b>	<b>Variance</b>	<b>Notes</b>
Assumed NTP	<b>14-Jun-13</b>				
YBM Headwalls Complete (NTP+45CD)	<u>29-Jul-13</u>	YBM			
		Jet Grout Complete	12-Jul-13	17 CD	
		AWSS & Restoration Complete	2-Aug-13	(4) CD	timing may improve with recovery schedule
UMS Headwalls Complete (NTP+90CD)	<u>12-Sep-13</u>	UMS			
		South Headwall Complete	21-Aug-13	22 CD	
		North Headwall Complete	23-Sep-13	(11) CD	Finish date has 41 days of float in the 1252 schedule

2. Letter received from 1252 Contractor confirming their commitment to accelerated efforts by bringing on additional equipment and working double shifts, a recovery schedule will be provided to the CM team for review.
3. CSP Contract Administrator will draft the 1300 NTP letter on June 17, 2013.

July 2013:

1. NTP issued to 1300 Contractor Tutor Perini Corporation June 17<sup>th</sup>, 2013
2. Revisit following receipt of baseline schedule from Tutor (expected by July 17<sup>th</sup>).

October 2013:

1. Stockton street restoration is due to be complete 10/23. This will not affect TPC work.

November 2013:

1. Headwall construction is complete, risk retired by the risk committee

**Risk Mitigation Status****Risk Reference: 204**

Risk	Mitigation Strategy
Relocation of AT&T Vault and other utilities delays Work south of Bryant	<ol style="list-style-type: none"> <li>1. Continue negotiations/ coordination with utility owners.</li> <li>2. Contract 1300 is required to coordinate with utility companies for relocations</li> <li>3. SWAT team established to address utilities south of Bryant Street</li> <li>4. Initiate utility coordination meetings</li> </ol>

**Initial Assessment:** 2, 2, 4**Current Assessment:** Risk Rating 6 – Construction Risk**Risk Owner:** R. Redmond /M. Benson**Status Log:**

December 2012:

1. Identified Risk and refined risk statement together with development of mitigation strategies.

January 2013:

1. Need to setup a meeting with AT&T and a representative from the Design side to walk them through what will be done in the 1300 contract.

February 2013:

1. Risk description refined.
2. AT&T were made aware of the potential need for relocation of the vault and duct bank in November 2012.
3. A meeting has been arranged between CSP and AT&T for Tuesday 2/19/13 to follow up on the November meeting and confirm that the vault and duct bank will need to be relocated.
4. Relocation of the vault has been included in the D&B element of the 1300 contract and is the responsibility of the contractor.
5. The 1300 contract requires the contractor to allow 12 months for AT&T to cut over new services from the existing duct bank into a new duct bank proposed within the eastern sidewalk of 4<sup>th</sup> Street between Bryant and Brannan Streets.

March 2013:

1. Increase scope of this risk to include other utilities; Level 3, PG&E, MRY, ASB, SFWD, SFDT, Comcast.
2. Contractual execution of the trench installation to be discussed.
3. AT&T have not been contacted during 1300 bid.
4. It was discussed that the schedule impact of this risk rating should be increased to 4 (6-12 months), this increased the risk rating to 6

April 2013:

1. Utility relocations may require a joint trench under the Contract 1300 design build scope.
2. If a joint trench is required under the contract the 1300 contractor would manage the implementation of the joint trench, SFMTA would manage the Form B process for reimbursement of the joint trench costs.
3. Mitigation strategy added that the 1300 contractor is required to coordinate with private utility companies.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 204</b>
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4. A SWAT team has been established comprising DP-3 and the Design Oversight manager who are meeting weekly to address utilities south of Bryant. DP3 are preparing Notice of Intent letters for utilities to relocate.

May 2013:

1. Final Notice of Intent letters were sent to private utilities Friday 5/3/13.
2. Final Notice of Intent letters will be sent to AT&T and PG&E the week commencing 5/6/13.

July 2013:

1. Revisit following Tutor baseline submittal.
2. It is noted that the Tutor schedule submitted 5 days following bid closure allowed a 12 month period to cutover to the new AT&T duct but did not appear to allow adequate time for construction of the AT&T duct along 4<sup>th</sup> Street.
3. Utility coordination meeting will be held to ensure the contract requirements are understood by the contractor.

October 2013:

1. DP-3 Tech memo being finalized
2. Relocation design and construction schedule to be developed

November 2013:

1. Coordination meetings with utility owners to occur on a regular basis, Tutor Perini are to be invited
  - a. AT&T plan for resource allocation, confirmation of assets and scheduling of work is to be confirmed as AT&T have very few resources who can complete cutover work
2. SFMTA are currently working with AT&T to establish a feasible location to relocate Vault 2081
3. The importance of this work is to be discussed at the next executive partnering meeting with Tutor

**Risk Mitigation Status****Risk Reference: 208**

Risk		Mitigation Strategy
Additional cost to retrieve TBMs at the Pagoda Theatre site exceeds current budget	✓ ✓ ✓ ✓ ✓ ✓	1. Develop Scope with designers currently under contract 2. Agree to alignment and details of new shaft location 3. Issue PCC to Contractor 4. Initial site works and borings if necessary 5. Obtain appropriate permits 6. Investigate alternate procurement methods

**Initial Assessment:** 3, 2, 8**Risk Owner:** R. Redmond/M. Benson**Current Assessment:** Risk Rating 8 – Construction Risk**Status Log:**

February 2013 Meeting:

1. This is in the works, PCC 10 has been issued, a rough order of magnitude estimate has been established, BIH has been given a not to exceed of \$ 50,000 to do Pagoda demolition drawings, SFMTA is negotiating with Pagoda Owner for use of the site.

March 2013:

1. Demolition drawings have been submitted to DBI for review.
2. If resolution of costs associated with the Pagoda option is not achieved, the TBMs will be buried to maintain budget requirements

April 2013:

1. Contractors cost estimate currently at \$10.4m net compared to engineers estimate of \$5.6m
2. Agreement has not been reached on PCC-10.
3. Current schedule has the retrieval shaft finishing just in time for arrival of the TBMs in North Beach.
4. Recommend adding an additional mitigation item 6. – investigate alternate procurement methods and strategies.
  - a. Option 1 – agree PCC-10 with contractor – Central Subway and BIH are preparing a joint paper summarizing the areas where agreement has not been reached on the PCC-10 estimates
  - b. Option 2 – utilize a separate design contract and procure via design, bid, build
  - c. Option 3 – bid demolition of the Pagoda theatre as a separate package
5. Central Subway are meeting with BIH 4/12/13 to discuss the joint paper prior to elevating for review by management
6. Recommend maintaining this risk rating.

May 2013:

1. Contract 1277 for the demolition of the Pagoda Theatre site was advertised Saturday 5/4/13.
2. The Central Subway BIH joint paper is still being developed.
3. Current cost issue between SFMTA and Contractor are close to being resolved.

June 2013:

1. PCC-10 is still being negotiated; further details will be provided next meeting.
2. Cutter soil mixing is being proposed to construct the retrieval shaft in lieu of tangent piles (ROM approx. \$600k less than tangent piles).
3. Contract 1277 for demolition of the Pagoda theatre is to be awarded 6/19/13.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 208</b>
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4. PCC 10 should be closed by June 14, or during the week commencing 6/17/13.
5. Overall budget will be maintained.

July 2013

1. Final negotiations have not yet concluded. Currently still on Budget

October 2013:

1. Budget to be increased \$500,000 through CPT 690 being presented to the November 5<sup>th</sup>, 2013 SFMTA Board meeting

November 2013:

1. CPT 690 approved by the SFMTA board on November 5<sup>th</sup>.
2. Change orders for the demolition of the Pagoda Theatre are currently being negotiated with the demolition contractor



**Risk Mitigation Status****Risk Reference: 212**

Risk	Mitigation Strategy
UMS Inclined piles – 8” clearance between piles and tunnel results in damage or safety issues within the tunnel	✓ 1. Establish 1252 and 1300 contract requirements to construct within acceptable tolerances 2. Workshop to be held with BIH to discuss hold points during construction, and construction means and methods 3. Confirm tunnel as-built location

**Initial Assessment:** 4 (1, 5, 3)**Risk Owner:** R. Redmond**Current Assessment:** Risk Rating 4 - Construction Risk**Status Log:**

February 2013:

1. Identified as a potential risk

March 2013:

1. Discuss and confirm risk description, mitigation strategy and initial risk rating.
2. Workshops are to be held with BIH to increase their understanding of the interfaces with the 1300 contract.
3. Issues to be addressed will be identified and piling hold points will be discussed.
4. Tunnel construction tolerance is 4” from bulls eye, 8” clearance is in addition to the 4” tunnel tolerance.
5. **Recommended risk rating 4 (1, 5, 3)**
  - a. Probability (1), <10%, considered possible but unlikely
  - b. Cost impact (5), > \$10m, significant costs expected if tunnel collapse occurred
  - c. Schedule impacts (3), 3 - 6 months, significant schedule impacts if tunnel collapse occurred

April 2013:

1. Hold points in 1300 Contract have been identified.
2. Workshops are to be held between BIH and the 1300 Contractor to address interfaces between the contracts.

October 2013:

1. Potential for damage and safety issues in tunnel to be discussed and defined
2. Establish task force - to create action plan that specifically guides the Program successfully thru this risk.
3. Action plan to address Cost and Schedule concerns.
4. Confirm contract requirements in 1300 about tunnel bracing.
5. Update mitigation strategy – to include current contract requirements for 1300 related to bracing and work above the tunnel.
6. Follow up with the designed on what loads can the liner support?
7. Facilitate the early cooperation of 1252 Contractor and 1300 Contractor to implement appropriate plan.
8. Work together with 1300 Contractor – to sequence the work in a manner to avoid exposure to the condition.

November 2013:

1. Tunnel bracing is suggested per the contract as means and methods are to be determined by the contractor
2. Concerns raised by Tunnel Contractor are to be communicated to Designer. Designer to comment of validity of those concerns.

<b>Risk Mitigation Status</b>
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<b>Risk Reference: 212</b>
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**Risk Mitigation Status**

**Risk Reference: 213**

Risk	Mitigation Strategy
Micro Piles exist within tunnel path at UMS – inaccuracies in micro-pile as-built information results in collision with piles.	1. Re-profile and realign tunnel to clear micropiles 2. Stop machine and cut out pile if slight encroachment occurs

**Initial Assessment:** 4 (2, 3, 1)

**Current Assessment:** Risk Rating 4 - Construction Risk

**Risk Owner:** A. Hoe

**Status Log:**

February 2013:

1. Identified as a risk

March 2013:

1. The tunnel has been realigned and re-profiled
2. **Initial risk rating 3 (1, 3, 2)**
  - a. Probability (1), <10%
  - b. Cost impact (3), \$1m - \$3m
  - c. Schedule impacts (2), 1 – 3 months

October 2013:

1. No further mitigation available

November 2013:

1. No updated information.

<b>Risk Mitigation Status</b>
<b>Risk Reference: 216</b>

Risk	Mitigation Strategy
Olivet building potential construction impact	<ol style="list-style-type: none"> <li>1. 1. Reach out to building owner and keep him abreast of CS construction activities.</li> </ol>

**Initial Assessment:** 2 (1, 1, 2)  
**Current Assessment:** Risk Rating 2 - Construction Risk

**Risk Owner:** A. Clifford

**Status Log:**

May 2013:

1. Maintain communication with DPT to make sure that they aren't approving work which will affect our project.

July 2013:

1. A meeting was held with the owner and engineering consultants of the 250 Fourth Street Development.
  - a. Overview and extent of YBM station structure and construction staging was explained.
  - b. Demolition of existing Olivet University building expected early 2014
  - c. 250 Fourth Development advised that Clementina (via 5<sup>th</sup> Street) is likely to be the only access available to their site.

October 2013:

1. Discuss increasing cost impact to rating (2) \$250k to \$1m due to potential impact on building protection and compensation grouting program
2. Staff are working with the City Attorney's office, Planning, and Department of Building Inspection to confirm the Cities rights in this situation
3. Permitting status of development to be confirmed
4. TPC to submit street space permits as soon as possible
5. Communication protocol with developer to be established

November 2013:

1. 10/23/13 conference call held with developer.
  - a. The developer is preparing a pile foundation design to minimize impact on Station Structure
  - b. This will be forward to Central Subway to allow its designers to assess the impact of the design on the station
  - c. Central Subways consultant time will be reimbursed by the developer (agreement currently with developer for review)
  - d. Tutor Perini have established Phase 1 Traffic Management which occupies part of Clementina Street and the West side of 4<sup>th</sup> street

**Risk Mitigation Status****Risk Reference: 219**

<b>Risk</b>	<b>Mitigation Strategy</b>
Air replenishment system no longer required – Agency bears unnecessary cost of installation and maintenance of an air replenishment system that is no longer required.	

**Initial Assessment:** TBD (new risk)**Current Assessment:** Risk Rating - TBD**Risk Owner:** TBD**Status Log:**

November 2013:

1. New risk identified the possibility that the clearance between the outside of the SB tunnel, to the inside of the YBM slurry wall may be as little as 3" (if construction tolerance is used for both the tunnel and the slurry wall).
2. Communication with the designer to be put on record to the effect that the Central Subway Program understands that this was coordinated between DP1 and DP2 during design.
3. A graphic is to be generated showing the clearance between the outside of the tunnel, the inside of the slurry wall, and the reinforcing detail at the corner of the headwall.
4. The mitigation strategy is to be developed.

**Risk Mitigation Status****Risk Reference: B**

Risk		Mitigation Strategy
Storage and testing of excavated soils from tunnel limits advance rate of tunneling.	√	<ol style="list-style-type: none"> <li>1. Provide adequate storage and handling facility to accommodate testing activity.</li> <li>2. Work with SAR to develop acceptance criteria, to minimize or eliminate testing requirements.</li> <li>3. Require the contractor to provide a detailed workplan for testing, sorting and stockpile prior to hauling.</li> </ol>

**Initial Assessment:** 3, 3, 9**Risk Owner:** S. Wilson**Current Assessment:** Risk Rating 6 – Construction Risk**Status Log:**

January 2012 Meeting:

1. The tunnel contractor is required to prepare and submit for approval preliminary workplan for handling and testing excavated materials. Contractor is attempting to obtain the use of additional Caltrans parcel between Fourth & Fifth and Harrison & Bryant to help facilitate this work and provide additional storage area.
2. The Project Team is working with Caltrans and the community to obtain a temporary lease for this parcel.
3. Added mitigation strategy to expedite testing of material.
4. Recommend to reduce this risk to 2, 3, 6.

June 2012 Meeting;

1. Obtained some of Caltrans parcel needed for muck handling. Contractor feels that enough room to handle material.
2. Approval to test soils offsite has not been approved. Some testing area is available on Caltrans site.

December 2012:

1. Launch Box - BIH have submitted a plan for handling and testing of excavated materials for the launch box excavation.
  - a. handling and testing plan has been reviewed and accepted by DPH.
  - b. soil was sampled and pre-classified during slurry wall installation.
  - c. testing regime has been agreed with DPH and the receiver of spoil (Baylands) to expedite removal.
2. Tunnel Excavation will follow a similar procedure to the launch box.
  - a. Tunneling spoil handling and testing plan is expected early 2013.
  - b. The 1252 team are seeking to transport non-classified spoil from site to be handled as if hazardous material until it's classification is confirmed by off-site testing.
  - c. Advanced tunneling spoil removal will be managed using additional haulage and off-site storage if required
3. **Recommend reduce this risk rating to 2, 1.5, 3** (reduced cost and schedule impact only)
  - a. Current probability (2), 10%-50%, maintain probability rating
  - b. Current cost impact (3), \$1m - \$3m, recommend reduce cost impact to (2), \$250k - \$1m (cost of additional haulage or storage off site)
  - c. Current schedule impacts (3), 3 – 6 months, recommend reduce schedule impact to (1), < 1 month (days or weeks to adjust haulage and storage requirements).

<b>Risk Mitigation Status</b>
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<b>Risk Reference: B</b>
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April 2013:

1. Hazardous material has been discovered in the ground at the 1252 yard preventing excavation in some areas
2. BIH had planned to create a holding pit for material excavated from the tunneling operation
3. Capacity for storage of material excavated by tunneling at the site may now have been reduced
4. BIH are preparing a revised handling and testing plan to address this issue
5. Maintain this risk rating and revisit next month following receipt of the new handling and testing plan

May 2013:

1. BIH have confirmed that material handling and storage capacity will not be reduced
2. Recommend reduce this risk rating to 3

September 2013:

1. Capacity to remove spoil will be maintained by increased haulage
2. BIH will pay to keep the disposal facility open to accommodate off-haulage if required

November 2013:

1. Risk retired by the risk committee as this risk has been transferred to the contractor.

RETIRED

<b>Risk Mitigation Status</b>
<b>Risk Reference: T</b>

Risk	Mitigation Strategy
Delay to final design submittal due to delay of emergency ventilation approval by SFFD.	<ol style="list-style-type: none"> <li>1. Work with SFFD to develop a plan acceptable to each party.</li> <li>2. Incorporate SFFD comments into the construction documents.</li> </ol>

**Initial Assessment:** 2, 2, 4  
**Current Assessment:** Risk Rating 5 – Requirement Risk

**Risk Owner:** A. Hoe

**Status Log:**

- December 2011:
1. A meeting was held on 12/15/11 with SFFD and SFMTA to discuss emergency ventilation. SFFD agreed to the proposed plan by SFMTA as long as additional signage and lighting were provided in the stations to increase the safety of emergency responders in event of an emergency.
- March 2012 Meeting:
1. Required emergency ventilation requirements will be incorporated into the construction documents.
  2. Recommend to retire this risk from the risk register.
  3. This risk is not retired. Final approval by SFFD on 100% construction documents still needed.
- May 2012 Meeting:
1. SFFD requirements are being implemented in the construction documents.
  2. A variance for the under stair requirement will be sought from SFFD.
- June 2012 Meeting:
1. SFFD has conditionally approved the 3-fan configuration in the stations.
  2. SFFD has conditionally approved the CFD analysis for each station based on the approval of one-hour tenability using illuminated platform edge, and access/egress route signage/demarcation.
  3. Final approval by SFFD will occur during the DBI pre-application review for each station.
- September 2012 Meeting:
1. SES review comments addressed, revised report submitted.
- October 2012 Meeting:
1. Follow up required with SES to close out remaining comments and confirm concurrence
- November 2012 Meeting:
1. Central Subway continue to work with SFFD to close out the remaining comments
- December 2012 Meeting:
1. Comments received by SFFD, submittal will be revised.



<b>Risk Mitigation Status</b>
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<b>Risk Reference: T</b>
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January 2013:

1. SES will be forwarded to Fire Life Safety Committee for approval.

February 2013 Meeting:

1. The Tunnel Ventilation SES resubmittal was sent for verification 1/18/13 (verification is expected early March 2013).

March 2013:

1. No new update to this risk.

April 2013:

2. A conference call was held between HNTB and SFFD on 3/21/13 to review open comments.
3. SFFD were satisfied with the responses given.
4. HNTB are preparing a revised Tech Memo for verification prior to formal submission.

May 2013:

1. Concurrence was received from SFFD for the revision 2 of the SES technical memo
2. The tech memo will be routed internally for signature prior to sending to FLSC (Fire Life Safety Committee) for signoff.
3. The completed and signed tech memo is expected to be completed and signed by the FLSC by the end of May 2013.

July 2013:

1. SES report has been approved by SFFD, being routed internally for signature.
2. Review comments to be addressed prior to retirement of risk.

November 2013:

1. Review comments have been closed out.
2. Risk to remain open until Tunnel Lowering and Chinatown station head house changes are resolved

<b>Risk Mitigation Status</b>
<b>Risk Reference: V</b>

Risk	Mitigation Strategy
Incorporation of revised Planning Zoning/ development criteria for Moscone Station TOD impact MOS and CTS construction contract.	<ol style="list-style-type: none"> <li>1. Participate and provide input of CSP constraints to SFMTA Real Estate during process of initial task to define best use.</li> <li>2. Integrate work with SFMTA Real Estate into CSP</li> </ol>

**Initial Assessment:** 3, 2, 6

**Risk Owner:** A.Hoe

**Current Assessment:** Risk Rating 3 – Design Risk

**Status Log:**

March 2012 Meeting:

1. SFMTA entered into agreement with development firm to maximize use of existing SFMTA real estate inventory.
2. Initial task is to develop proposed best use for the top three properties of which two of the properties are CTS and MOS headhouse locations.
3. Need to identify Program contact person to stay in touch and provide input of CSP constraints to SFMTA Real Estate.

May 2012 Meeting:

1. The Planning Department has included development criteria in the recently approved Conditional Use Permit.  
**4/10/13 Note:** Central Subway received an email from Scott Sanchez of SF Planning on 9/11/12 confirming that a Conditional Use Authorization is not required as the Planning Code Section 228(c) was recently amended (Ordinance No. 173-12, effective 9/1/12) to exempt service stations on Primary Transit Streets or Citywide Pedestrian Network Streets (as designated in the General Plan) from the conversion requirements of Section 228.

June 2012 Meeting:

No status update.

August 2012 Meeting:

1. **MOS TOD** – set-aside TOD zone complied to & is based on current zoning criteria. SF Planning has plans to up-size the zoning in SOMA/Central Corridor. Potential conflict and discord with SF Planning on the IFB documents. FD has been completed.
2. **CTS TOD** – set-aside TOD zone or absence of TOD cleared SF Planning environmental (& historical) review & MMRP mitigation. ~~Next step is obtaining Conditional Use Authorization thru Sept 6, 2012 Commission contract with incorporation of Planning Dept recommendations.~~ Note: Obtaining the Conditional Use Authorization and incorporating the Planning Departments recommendations is not related to this risk

September 2012 Meeting:

1. Conditional Use permit received for CTS.

October 2012 Meeting:

1. Status of communication to SFMTA Real Estate to be provided next meeting

<b>Risk Mitigation Status</b>
<b>Risk Reference: V</b>

November 2012 Meeting:

1. Chinatown Station is compliant with current building codes and zoning requirements in effect. SFMTA Real Estate has a separate project outside of Central Subway to specifically address transit oriented development (TOD) at the site. Central Subway is not directly involved or has ability for involvement on the TOD scope. There have been no requests received from SFMTA Real Estate in relation to changing the CTS design. Note that the design is complete, and contract is out to bid as Contract 1300.
2. Yerba Buena / Moscone Station is compliant with current building codes and zoning requirements in effect. and does not preclude future TOD in accordance to present zoning CSP received a letter from SF Planning on May 4<sup>th</sup> 2012 stating the YBM design is in general conformance with the City's General Plan. In the same letter, SF Planning raised concerns in relation to the development potential of the site in relation to 1) future zoning criteria 2) development over the YBM headhouse portion of the site. Central Subway is circulating a response to this letter.
3. SFMTA Real Estate has a separate project outside of Central Subway to specifically address TOD on the site. Central Subway is not directly involved or has the ability for involvement on the TOD scope. There have been no requests received from SFMTA Real Estate in relation to changing the YBM design.
4. Note: a correction has been made to the August update.

December 2012:

1. SFMTA has not requested a change in design, however they could make a request up into the time we pour the invert slab with the actual column base rebar.

January 2013:

1. No additional request to report from SFMTA.

February 2013 Meeting:

1. Central Subway are circulating a response letter to SF Planning letter of May 4<sup>th</sup> 2012.

March 2013 Meeting:

1. No new update to this risk.

April 2013:

1. Final design documents for YBM are being routed for approval through the SF Planning department.
2. The response to the SF Planning letter of May 4<sup>th</sup> 2012 is still outstanding.

<b>Risk Mitigation Status</b>
<b>Risk Reference: V</b>

May 2013:

1. CTS:
  - a) Agency has additional funds from Funding Source:- Environmental Mitigation for Open Space
  - b) Gensler Architects to come up with proposals to perform some minor modification to the **surface** portion of Chinatown Station. Community meeting will be held in late May or June to present options. Community feedback will determine how to proceed with surface build-out of CTS.
2. MOS:
  - a) Funding source has not yet been established for MOS. Central Corridor plan is in the EIR development stage.

June 2013:

1. CTS:
  - a) Funding source has been established for CTS. The Agency has initiated a conceptual design effort to build out the balance of the property at the CTS location.
  - b) Design will be given to the 1300 Contractor to request a design build cost. Estimated cost is \$9-12M
2. MOS:
  - a) SF Planning has determined there is no issue for YBM.
3. Risk cost impact has been reduced to a 1. Overall Risk assessment rating is currently at a 3.

July 2013

1. Nothing new to report, No change in rating.
2. No cost or schedule impact, funding from outside sources.

November 2013:

1. Design costs approximately \$500,000. Tutor estimate construction costs at \$3.5m.

**Risk Mitigation Status**

**Risk Reference: PR80**

Risk	Mitigation Strategy
ROW costs higher than anticipated.	1. Provide adequate contingency for potential higher costs

**Initial Assessment:** 1, 2, 2

**Current Assessment:** Risk Rating 0 – Market Risk

**Risk Owner:** A. Wong

**Status Log:**

January 2012:

October 2013:

- 1. Recommend retirement of this risk as ROW costs are included in Risks 79, and 196.

November 2013:

- 1. Risk retired by unanimous consent of Risk Assessment Committee 11/12/13.

RETIRED

**SB Tunnel (Mom Chung)**

Start Tunnel Station: 163+53.00 *\*Note: Start of Station is the approximate location of the north face of the slurry wall at the Launch .*  
 End Tunnel Station: 78+30.00 *\*Note: End of Station is the approximate location inside face of the slurry wall at the Retrieval Shaft*

Date	SB Tunnel Station (Taken at 6:00 am on Particular Day)	Days of Mining	24 Hr Daily Progress (ft)	Current Ring Number	# of Rings installed (24Hr)	Total LF to Date	Avg Daily Rate (ft/Mining Day)	Best 24 hr Progress	Date of Best 24
M	7/22/2013		-	-4	0	-	-	-	
T	7/23/2013		-	-3	1	-	-	-	
W	7/24/2013	1	3.9	-3	0	3.9	3.9	3.9	7/24/2013
R	7/25/2013	2	8.0	-3	0	11.9	5.9	8.0	7/25/2013
F	7/26/2013	3	11.1	-1	0	23.0	7.7	11.1	7/26/2013
S	7/27/2013		-	0	0	23.0	-	11.1	7/26/2013
S	7/28/2013		-	0	0	23.0	-	11.1	7/26/2013
M	7/29/2013	4	7.9	1	1	30.9	7.7	11.1	7/26/2013
T	7/30/2013	5	-	1	0	30.9	6.2	11.1	7/26/2013
W	7/31/2013	6	1.4	2	1	32.2	5.4	11.1	7/26/2013
R	8/1/2013	7	0.0	2	0	32.2	4.6	11.1	7/26/2013
F	8/2/2013	8	13.6	4	2	45.8	5.7	13.6	8/2/2013
S	8/3/2013		-	4	0	45.8	-	13.6	8/2/2013
S	8/4/2013		-	4	0	45.8	-	13.6	8/2/2013
M	8/5/2013	9	6.8	6	2	52.6	5.8	13.6	8/2/2013
T	8/6/2013	10	2.5	6	0	55.1	5.5	13.6	8/2/2013
W	8/7/2013	11	14.8	9	3	69.9	6.4	14.8	8/7/2013
R	8/8/2013	12	20.0	13	4	89.9	7.5	20.0	8/8/2013
F	8/9/2013	13	19.8	17	4	109.7	8.4	20.0	8/8/2013
S	8/10/2013		-	17	0	109.7	-	20.0	8/8/2013
S	8/11/2013		-	17	0	109.7	-	20.0	8/8/2013
M	8/12/2013	14	20.4	22	5	130.0	9.3	20.4	8/12/2013
T	8/13/2013	15	28.1	29	7	158.2	10.5	28.1	8/13/2013
W	8/14/2013	16	38.9	36	7	197.1	12.3	38.9	8/14/2013
R	8/15/2013	17	29.1	41	5	226.3	13.3	38.9	8/14/2013
F	8/16/2013	18	8.8	43	2	235.0	13.1	38.9	8/14/2013
S	8/17/2013		-	43	0	235.0	-	38.9	8/14/2013
S	8/18/2013		-	43	0	235.0	-	38.9	8/14/2013
M	8/19/2013	19	28.6	51	8	263.6	13.9	38.9	8/14/2013
T	8/20/2013	20	41.6	57	6	305.2	15.3	41.6	8/20/2013
W	8/21/2013	21	25.0	62	5	330.1	15.7	41.6	8/20/2013
R	8/22/2013	22	15.0	65	3	345.2	15.7	41.6	8/20/2013
F	8/23/2013	23	40.0	71	6	385.2	16.7	41.6	8/20/2013
S	8/24/2013		-	71	0	385.2	-	41.6	8/20/2013
S	8/25/2013		-	71	0	385.2	-	41.6	8/20/2013
M	8/26/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
T	8/27/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
W	8/28/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
R	8/29/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
F	8/30/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
S	8/31/2013		-	71	0	385.2	-	41.6	8/20/2013
S	9/1/2013		-	71	0	385.2	-	41.6	8/20/2013
M	9/2/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
T	9/3/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
W	9/4/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
R	9/5/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
F	9/6/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013
S	9/7/2013		-	71	0	385.2	-	41.6	8/20/2013
S	9/8/2013		-	71	0	385.2	-	41.6	8/20/2013
M	9/9/2013	23	-	71	0	385.2	16.7	41.6	8/20/2013

**SB Tunnel (Mom Chung)**

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 End Tunnel Station: 78+30.00 *\*Note: End of Station is the approximate location inside face of the slurry wall at the Retrieval Shaft*

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T	9/10/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
W	9/11/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
R	9/12/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
F	9/13/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
S	9/14/2013	159+67.79		-	71	0	385.2	-	41.6	8/20/2013
S	9/15/2013	159+67.79		-	71	0	385.2	-	41.6	8/20/2013
M	9/16/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
T	9/17/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
W	9/18/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
R	9/19/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
F	9/20/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
S	9/21/2013	159+67.79		-	71	0	385.2	-	41.6	8/20/2013
S	9/22/2013	159+67.79		-	71	0	385.2	-	41.6	8/20/2013
M	9/23/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
T	9/24/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
W	9/25/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
R	9/26/2013	159+67.79	23	-	71	0	385.2	16.7	41.6	8/20/2013
F	9/27/2013	159+67.79	23	0.1	71	0	385.3	16.8	41.6	8/20/2013
S	9/28/2013	159+67.79		-	71	0	385.3	-	41.6	8/20/2013
S	9/29/2013	159+67.79		-	71	0	385.3	-	41.6	8/20/2013
M	9/30/2013	159+67.74	24	0.8	73	2	386.1	16.1	41.6	8/20/2013
T	10/1/2013	159+66.94	25	16.1	76	3	402.1	16.1	41.6	8/20/2013
W	10/2/2013	159+50.86	26	28.2	81	5	430.3	16.6	41.6	8/20/2013
R	10/3/2013	159+22.68	27	45.7	90	9	476.0	17.6	45.7	10/3/2013
F	10/4/2013	158+77.00	28	30.0	96	6	506.0	18.1	45.7	10/3/2013
S	10/5/2013	158+77.00		-	96	0	506.0	-	45.7	10/3/2013
S	10/6/2013	158+77.00		-	96	0	506.0	-	45.7	10/3/2013
M	10/7/2013	158+47.00	29	34.5	103	7	540.5	18.6	45.7	10/3/2013
T	10/8/2013	158+12.46	30	45.0	112	9	585.5	19.5	45.7	10/3/2013
W	10/9/2013	157+67.46	31	25.1	117	5	610.7	19.7	45.7	10/3/2013
R	10/10/2013	157+42.31	32	55.0	128	11	665.7	20.8	55.0	10/10/2013
F	10/11/2013	156+87.26	33	44.3	137	9	710.1	21.5	55.0	10/10/2013
S	10/12/2013			-	137	0	710.1	-	55.0	10/10/2013
S	10/13/2013			-	137	0	710.1	-	55.0	10/10/2013
M	10/14/2013	156+42.94	34	30.9	144	7	741.0	21.8	55.0	10/10/2013
T	10/15/2013	156+12.00	35	55.0	154	10	796.0	22.7	55.0	10/10/2013
W	10/16/2013	155+57.00	36	47.9	164	10	843.9	23.4	55.0	10/10/2013
R	10/17/2013	155+09.11	37	72.0	178	14	915.9	24.8	72.0	10/17/2013
F	10/18/2013	154+37.09	38	50.0	188	10	965.9	25.4	72.0	10/17/2013
S	10/19/2013			-	188	0	965.9	-	72.0	10/17/2013
S	10/20/2013			-	188	0	965.9	-	72.0	10/17/2013
M	10/21/2013	153+87.10	39	55.3	200	12	1,021.2	26.2	72.0	10/17/2013
T	10/22/2013	153+31.84	40	48.3	209	9	1,069.4	26.7	72.0	10/17/2013
W	10/23/2013	152+83.57	41	-	209	0	1,069.4	26.1	72.0	10/17/2013
R	10/24/2013	152+83.57	42	19.4	213	4	1,088.8	25.9	72.0	10/17/2013
F	10/25/2013	152+64.22	43	67.7	226	13	1,156.5	26.9	72.0	10/17/2013
S	10/26/2013			-			1,156.5	-	72.0	10/17/2013
S	10/27/2013			-		0	1,156.5	-	72.0	10/17/2013
M	10/28/2013	151+96.52	44	85.1	243	17	1,241.6	28.2	85.1	10/28/2013
T	10/29/2013	151+11.43	45	87.8	261	18	1,329.4	29.5	87.8	10/29/2013

**SB Tunnel (Mom Chung)**

Start Tunnel Station: 163+53.00 *\*Note: Start of Station is the approximate location of the north face of the slurry wall at the Launch .*  
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W 10/30/2013	150+23.64	46	52.5	271	10	1,381.9	30.0	87.8	10/29/2013
R 10/31/2013	149+71.11	47	75.0	286	15	1,456.9	31.0	87.8	10/29/2013
F 11/1/2013	148+96.12	48	45.3	295	9	1,502.2	31.3	87.8	10/29/2013
S 11/2/2013			-	295	0	1,502.2	-	87.8	10/29/2013
S 11/3/2013			-	295	0	1,502.2	-	87.8	10/29/2013
M 11/4/2013	148+50.83	49	87.4	313	18	1,589.6	32.4	87.8	10/29/2013
T 11/5/2013	147+63.43	50	62.6	325	12	1,652.2	33.0	87.8	10/29/2013
W 11/6/2013	147+00.85	51	75.3	340	15	1,727.4	33.9	87.8	10/29/2013
R 11/7/2013	146+25.60	52	76.1	356	16	1,803.5	34.7	87.8	10/29/2013
F 11/8/2013	145+49.55	53	49.0	365	9	1,852.5	35.0	87.8	10/29/2013
S 11/9/2013	145+00.51		-	365	0	1,852.5	-	87.8	10/29/2013
S 11/10/2013	145+00.51		-	365	0	1,852.5	-	87.8	10/29/2013
M 11/11/2013	145+00.51	54	20.1	370	5	1,872.6	34.7	87.8	10/29/2013
T 11/12/2013	144+80.43	55	-			-	-		
W 11/13/2013			-		0	-	-		
R 11/14/2013			-		0	-	-		
F 11/15/2013			-		0	-	-		
S 11/16/2013			-		0	-	-		
S 11/17/2013			-		0	-	-		
M 11/18/2013			-		0	-	-		
T 11/19/2013			-		0	-	-		
W 11/20/2013			-		0	-	-		
R 11/21/2013			-		0	-	-		
F 11/22/2013			-		0	-	-		
S 11/23/2013			-		0	-	-		
S 11/24/2013			-		0	-	-		
M 11/25/2013			-		0	-	-		
T 11/26/2013			-		0	-	-		
W 11/27/2013			-		0	-	-		
R 11/28/2013			-		0	-	-		
F 11/29/2013			-		0	-	-		
S 11/30/2013			-		0	-	-		
S 12/1/2013			-		0	-	-		
M 12/2/2013			-		0	-	-		
T 12/3/2013			-		0	-	-		
W 12/4/2013			-		0	-	-		
R 12/5/2013			-		0	-	-		
F 12/6/2013			-		0	-	-		
S 12/7/2013			-		0	-	-		
S 12/8/2013			-		0	-	-		
M 12/9/2013			-		0	-	-		
T 12/10/2013			-		0	-	-		
W 12/11/2013			-		0	-	-		
R 12/12/2013			-		0	-	-		
F 12/13/2013			-		0	-	-		
S 12/14/2013			-		0	-	-		
S 12/15/2013			-		0	-	-		
M 12/16/2013			-		0	-	-		
T 12/17/2013			-		0	-	-		
W 12/18/2013			-		0	-	-		



**SB Tunnel (Mom Chung)**

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R	12/19/2013		-		0	-	-		
F	12/20/2013		-		0	-	-		
S	12/21/2013		-		0	-	-		
S	12/22/2013		-		0	-	-		
M	12/23/2013		-		0	-	-		
T	12/24/2013		-		0	-	-		
W	12/25/2013		-		0	-	-		
R	12/26/2013		-		0	-	-		
F	12/27/2013		-		0	-	-		
S	12/28/2013		-		0	-	-		
S	12/29/2013		-		0	-	-		
M	12/30/2013		-		0	-	-		
T	12/31/2013		-		0	-	-		
W	1/1/2014		-		0	-	-		
R	1/2/2014		-		0	-	-		
F	1/3/2014		-		0	-	-		
S	1/4/2014		-		0	-	-		
S	1/5/2014		-		0	-	-		
M	1/6/2014		-		0	-	-		
T	1/7/2014		-		0	-	-		
W	1/8/2014		-		0	-	-		
R	1/9/2014		-		0	-	-		
F	1/10/2014		-		0	-	-		
S	1/11/2014		-		0	-	-		
S	1/12/2014		-		0	-	-		
M	1/13/2014		-		0	-	-		
T	1/14/2014		-		0	-	-		
W	1/15/2014		-		0	-	-		
R	1/16/2014		-		0	-	-		
F	1/17/2014		-		0	-	-		
S	1/18/2014		-		0	-	-		
S	1/19/2014		-		0	-	-		
M	1/20/2014		-		0	-	-		
T	1/21/2014		-		0	-	-		
W	1/22/2014		-		0	-	-		
R	1/23/2014		-		0	-	-		
F	1/24/2014		-		0	-	-		
S	1/25/2014		-		0	-	-		
S	1/26/2014		-		0	-	-		
M	1/27/2014		-		0	-	-		
T	1/28/2014		-		0	-	-		
W	1/29/2014		-		0	-	-		
R	1/30/2014		-		0	-	-		
F	1/31/2014		-		0	-	-		
S	2/1/2014		-		0	-	-		
S	2/2/2014		-		0	-	-		
M	2/3/2014		-		0	-	-		
T	2/4/2014		-		0	-	-		
W	2/5/2014		-		0	-	-		
R	2/6/2014		-		0	-	-		

**SB Tunnel (Mom Chung)**

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F	2/7/2014		-		0	-	-		
S	2/8/2014		-		0	-	-		
S	2/9/2014		-		0	-	-		
M	2/10/2014		-		0	-	-		
T	2/11/2014		-		0	-	-		
W	2/12/2014		-		0	-	-		
R	2/13/2014		-		0	-	-		
F	2/14/2014		-		0	-	-		
S	2/15/2014		-		0	-	-		
S	2/16/2014		-		0	-	-		
M	2/17/2014		-		0	-	-		
T	2/18/2014		-		0	-	-		
W	2/19/2014		-		0	-	-		
R	2/20/2014		-		0	-	-		
F	2/21/2014		-		0	-	-		
S	2/22/2014		-		0	-	-		
S	2/23/2014		-		0	-	-		
M	2/24/2014		-		0	-	-		
T	2/25/2014		-		0	-	-		
W	2/26/2014		-		0	-	-		
R	2/27/2014		-		0	-	-		
F	2/28/2014		-		0	-	-		
S	3/1/2014		-		0	-	-		
S	3/2/2014		-		0	-	-		
M	3/3/2014		-		0	-	-		
T	3/4/2014		-		0	-	-		
W	3/5/2014		-		0	-	-		
R	3/6/2014		-		0	-	-		
F	3/7/2014		-		0	-	-		
S	3/8/2014		-		0	-	-		
S	3/9/2014		-		0	-	-		
M	3/10/2014		-		0	-	-		
T	3/11/2014		-		0	-	-		
W	3/12/2014		-		0	-	-		
R	3/13/2014		-		0	-	-		
F	3/14/2014		-		0	-	-		
S	3/15/2014		-		0	-	-		
S	3/16/2014		-		0	-	-		
M	3/17/2014		-		0	-	-		
T	3/18/2014		-		0	-	-		
W	3/19/2014		-		0	-	-		
R	3/20/2014		-		0	-	-		
F	3/21/2014		-		0	-	-		
S	3/22/2014		-		0	-	-		
S	3/23/2014		-		0	-	-		
M	3/24/2014		-		0	-	-		
T	3/25/2014		-		0	-	-		
W	3/26/2014		-		0	-	-		
R	3/27/2014		-		0	-	-		
F	3/28/2014		-		0	-	-		

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S	3/29/2014			-		0	-	-		
S	3/30/2014			-		0	-	-		
M	3/31/2014							-		
T	4/1/2014							-		
W	4/2/2014							-		
R	4/3/2014							-		
F	4/4/2014							-		

*Shaft*

*Shaft*

*Shaft*

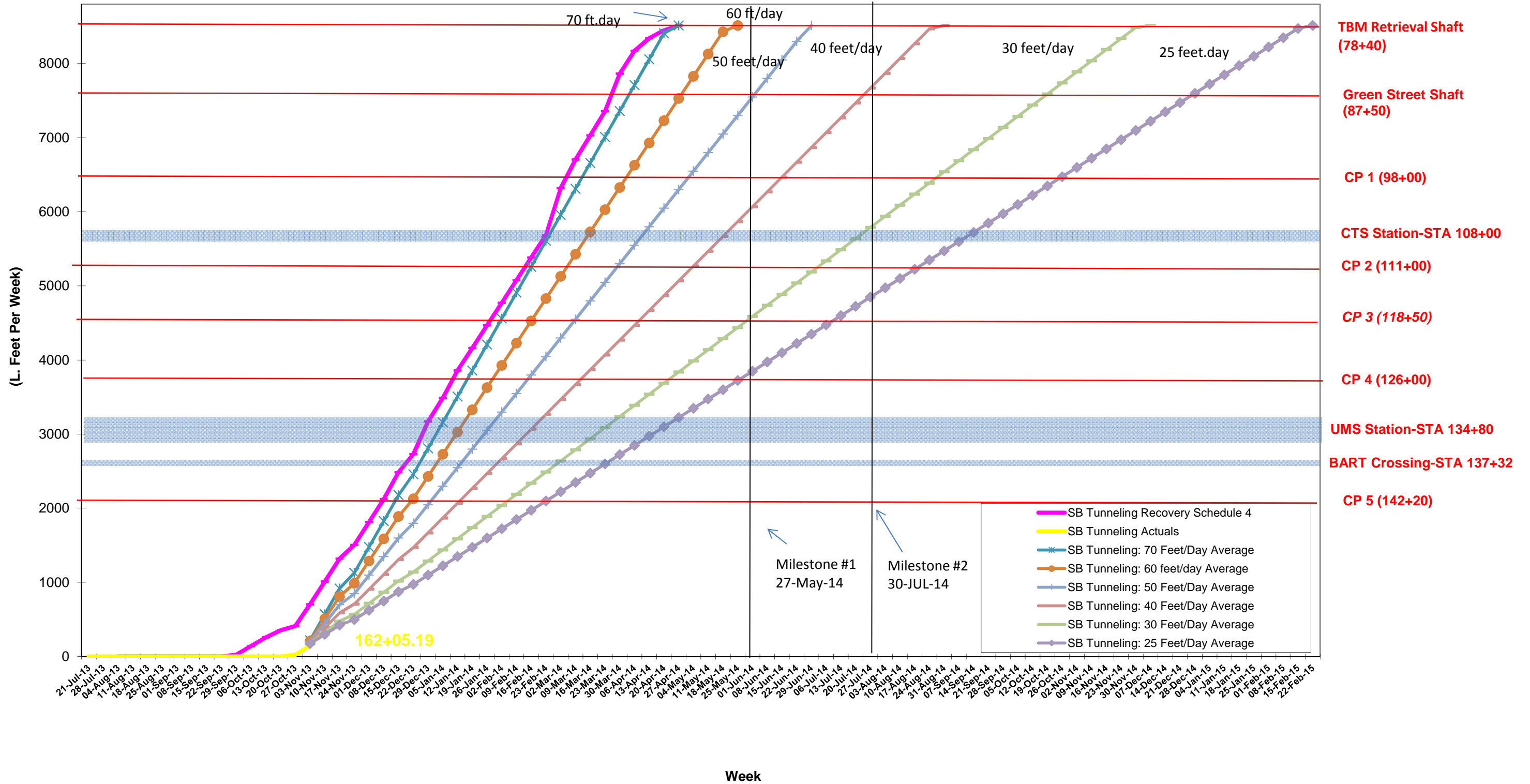
*Shaft*

*Shaft*

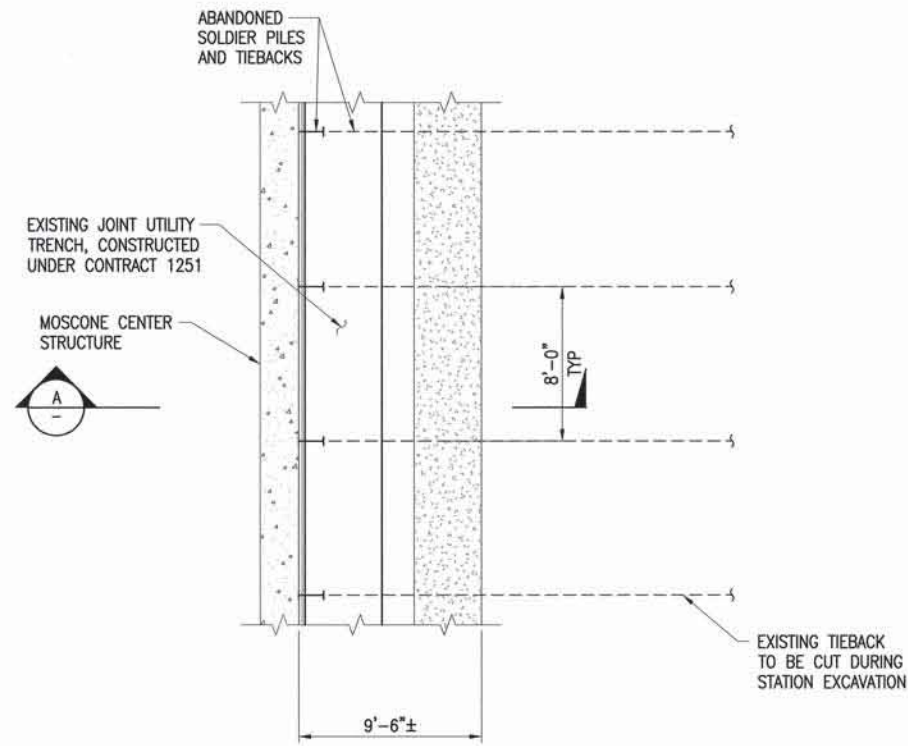


*Shaft*

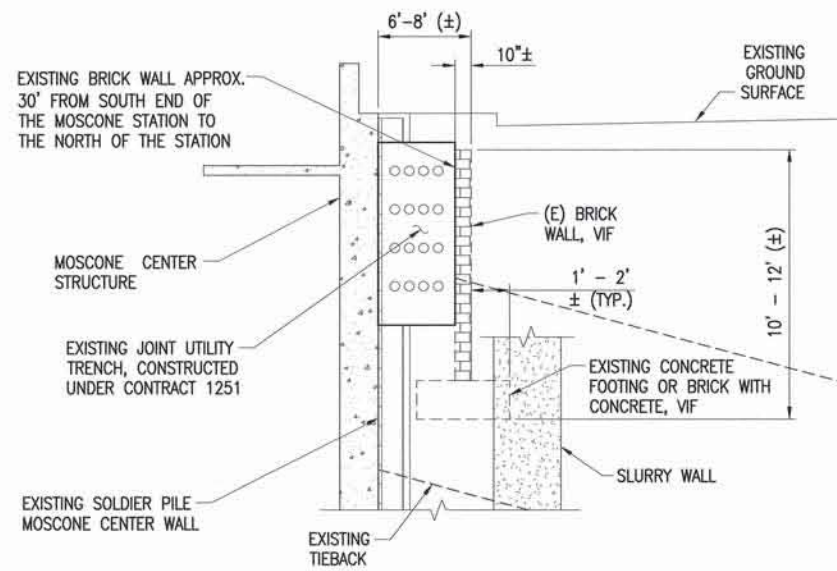
**CN1252  
North Bound Tunneling  
Performance Metrics (L. Feet) Per Week  
as of 11/8/2013  
Plan: 702' Actual: 148'**







**PARTIAL PLAN AT EAST WALL**

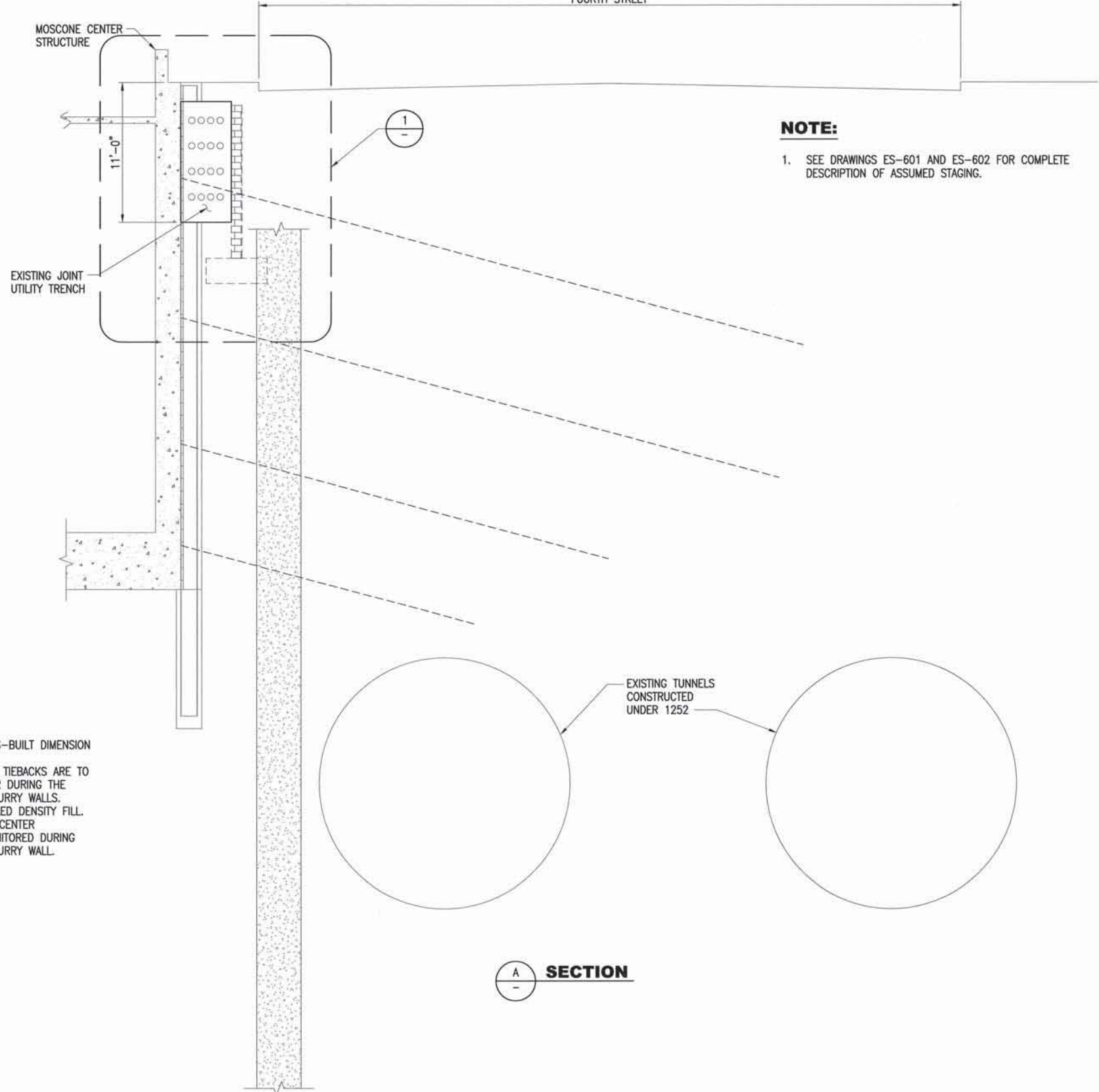


**EXISTING BRICK WALL AT EAST WALL**

1  
-  
DETAIL

**NOTES:**

1. CONTRACTOR TO VERIFY AS-BUILT DIMENSION OF THE BRICK WALL.
2. THE BRICK WALL AND THE TIEBACKS ARE TO BE REMOVED PRIOR TO OR DURING THE CONSTRUCTION OF THE SLURRY WALLS.
3. FILL VOIDS WITH CONTROLLED DENSITY FILL.
4. CONDITIONS OF MOSCONE CENTER STRUCTURE SHALL BE MONITORED DURING CONSTRUCTION OF THE SLURRY WALL.



**NOTE:**

1. SEE DRAWINGS ES-601 AND ES-602 FOR COMPLETE DESCRIPTION OF ASSUMED STAGING.

\\sv6ras003\m544.1\FinalDesign\DRAWINGS\CS155-2\1255\SHEET FILES\03\_STRUCTURAL\02\_EXCAVATION AND GROUND SUPPORT\12550302ES221.dwg  
 tmarosig Mon Feb 13, 2012 4:29 pm ES-221

central subway design group <b>PB AMERICAS, INC.</b> 125 YEARS		DESIGNED: T. LEE DRAWN: T. MARASIGAN CHECKED: K. JOHNSON REVIEWED: J. TUSING RECOMMENDED: A. READ APPROVED: R. EDWARDS DATE: 02/15/2012	REGISTERED PROFESSIONAL ENGINEER THOMAS SHIH-CHUEN LEE Exp. 6/30/2013 GEOTECHNICAL STATE OF CALIFORNIA	CITY AND COUNTY OF SAN FRANCISCO <b>MUNICIPAL TRANSPORTATION AGENCY</b> APPROVED DIRECTOR OF TRANSPORTATION	THIRD STREET LIGHT RAIL PROGRAM PHASE 2 - CENTRAL SUBWAY MOSCONE STATION EXCAVATION AND GROUND SUPPORT MOSCONE CENTER TIEBACK REMOVAL	CONTRACT NO. 1255 GMTA CONTROL NO. CL-21730 DRAWING NO. ES-221 SHEET NO. 186	REVISION 0
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**CONFORMED**





**RAIL CROSSINGS ENGINEERING SECTION  
CONSUMER PROTECTION AND SAFETY DIVISION  
RESOLUTION ROUTE SLIP**

**TED-253      GRANTING AN EXTENSION OF TIME TO COMPLETE THE  
CONSTRUCTION OF THREE NEW AT GRADE HIGHWAY-RAIL  
CROSSINGS AND A NEW TRACK AT AN EXISTING CROSSING AS A  
PART OF THE SAN FRANCISCO MUNICIPAL TRANSPORTATION  
AGENCY'S CENTRAL SUBWAY PROJECT LOCATED IN THE CITY AND  
COUNTY OF SAN FRANCISCO, PREVIOUSLY AUTHORIZED BY  
RESOLUTION SX-92**

---

Please initial and date in the appropriate space(s).

	INITIALS	DATE
1. S. MOZAFFARI, ENGINEER	<u>SM4</u>	<u>02/27/13</u>
2. M. PATEL, SR. ENGINEER	<u>MKP</u>	<u>02/28/13</u>
3. A. GARABETIAN, SUPR. ENGR.	<u>AGG</u>	<u>03/01/13</u>
4. D. GILBERT, PROGRAM MANAGER	<u>DAR</u>	<u>03/04/13</u>
5. PAUL KING, DEPUTY DIRECTOR	<u>[Signature]</u>	<u>3/4/13</u>
6. E.J. HAGAN, CPSD DIRECTOR	<u>[Signature]</u>	<u>3/5/13</u>

(Please return to Virginia D. Laya after your review and approval.)

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

**RESOLUTION TED-253**  
Safety and Enforcement Division

**RESOLUTION**

GRANTING AN EXTENSION OF TIME TO COMPLETE THE CONSTRUCTION OF THREE NEW AT GRADE HIGHWAY-RAIL CROSSINGS AND A NEW TRACK AT AN EXISTING CROSSING AS A PART OF THE SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY'S CENTRAL SUBWAY PROJECT LOCATED IN THE CITY AND COUNTY OF SAN FRANCISCO

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By a letter dated February 8, 2013, the Central Subway Project (CSP) of San Francisco Municipal Transportation Agency (SFMTA) requested an extension of time from March 11, 2013, to December 2018, to comply with the provisions of Resolution SX-92, dated March 11, 2010. Resolution SX-92 grants SFMTA authorization pursuant to Commission General Order 164-D to construct three new at-grade highway-rail crossings and a new track at an existing crossing as a part of the CSP, located in the City and County of San Francisco. This authorization was granted for three years and is scheduled to expire on March 11, 2013.

The provisions of Resolution SX-92 include the following:

- 1) Construction of an additional track through the existing 4<sup>th</sup> Street & King Street at-grade highway-rail crossing identified as CPUC Crossing No. 125T-5.09;
- 2) Construction of a new at-grade highway-rail crossing at 4<sup>th</sup> Street & Townsend Street to be identified as CPUC Crossing No. 125T-5.17;
- 3) Construction of a new at-grade highway-rail crossing at 4<sup>th</sup> Street & Brannan Street to be identified as CPUC Crossing No. 125T-5.29;
- 4) Construction of a new at-grade highway-rail crossing at 4<sup>th</sup> Street & Bryant Street to be identified as CPUC Crossing No. 125T-5.41.

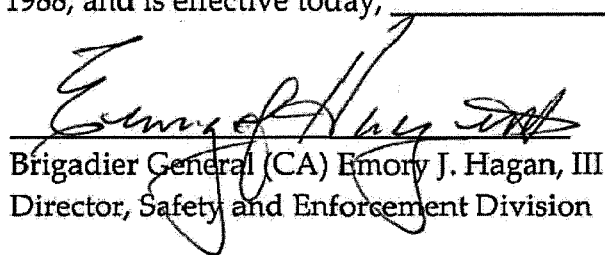
In the time extension request letter the SFMTA states that construction is currently out for bid with the expected bid opening scheduled for March 19, 2013. Based on their current construction schedule, the CSP requests a time extension to December 2018 to complete the construction of the project. However, time extensions are typically

granted for a period of three years due to potential changes in circumstances; if more time is needed, an additional request for extension of time must be submitted. Staff does not support such a lengthy time extension and believes an additional 3 year authorization period is appropriate. If a further extension is required, SFMTA must submit the request and staff will examine the circumstances at that time and make an appropriate recommendation regarding that time extension request.

The Safety and Enforcement Division's Rail Crossings Engineering Section finds that there has been no substantial change in circumstances since the granting of the original authority, and therefore recommends the issuance of this resolution.

IT IS RESOLVED that the San Francisco Municipal Transportation Agency is granted a three-year extension of time from March 11, 2013, to March 11, 2016, to exercise authority granted in Resolution SX-92. In all other aspects, Resolution SX-92 shall remain in full force and effect. A request for second extension of this three-year authorization period must be submitted to the Safety and Enforcement Division's Rail Crossings Engineering Section at least 30 days before the expiration of this period.

This resolution is issued pursuant to Resolution ET-1367 and memorandum by the Executive Director dated April 6, 1988, and is effective today, \_\_\_\_\_.

  
Brigadier General (CA) Emory J. Hagan, III  
Director, Safety and Enforcement Division

cc:

John Funghi  
Program Director, Central Subway Project  
San Francisco Municipal Transit Agency  
821 Howard Street  
San Francisco, CA 94103

ecc: (all via e-mail)

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San Francisco Municipal Transit Agency  
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San Francisco, CA 94103 [Albert.Hoe@sfmta.com](mailto:Albert.Hoe@sfmta.com)

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February 8, 2013

Mr. Daren Gilbert  
Manager  
Rail Transit and Crossings Branch  
Safety and Enforcement Division  
California Public Utilities Commission  
180 Promenade Circle, Suite 115  
Sacramento, CA 95834

Reference: Project No. M544.1  
Interagency Coordination

Subject: Extension to Construct Central Subway Project Grade Crossings

The Central Subway Project (CS) Contract 1300 is currently out for bid with the expected bid opening scheduled for March 19, 2013. The current CS at-grade crossing application is scheduled to expire in March, 2013. CS kindly requests an extension to construct the CS grade crossings in accordance with resolution SX-92. Based on our current construction schedule, we request a new expiration date for December, 2018.

As requested in Jimmy Xia's 1/24/13 email, attached are drawings and specifications for the grade crossings at 4<sup>th</sup>/Bryant, 4<sup>th</sup>/Brannan, 4<sup>th</sup>/Townsend and 4<sup>th</sup>/King Streets for verification that CPUC comments have been addressed and incorporated into the design contract.

Regarding comment on the red "X" (crossbuck) surface signals along 4th Street, Central Subway's surface signaling design currently follows SFMTA's current surface signaling standard which is in use throughout SFMTA's system. CPUC and SFMTA should continue the discussion of the light rail transit signal standardization, and specifically the lunar bar signals use for the CS project to reach a mutually agreeable solution. Ultimately, CS will follow SFMTA's directions for the light rail transit signals on the CS project.

As requested, below are dates from the CS master schedule:

- Contract 1300 Award – March, 2013
- Contract 1300 NTP – May, 2013  
(4<sup>th</sup> Street construction can begin as early as NTP)
- Revenue Service – December, 2018

We trust that the provided information is sufficient to resolve your comments and as mentioned above, CSP shall follow-up with surface signaling requirements as determined at a later date. We hope to proceed forward for approval of our application for our extension request.

If you have any questions or further information is required please call Ross Edwards at 415-701-5296.

Sincerely,



John Funghi  
Program Director

JF:sp

cc: Steve Artus, CPUC (via email: [stephen.artus@cpuc.ca.gov](mailto:stephen.artus@cpuc.ca.gov)) with Dwg list only  
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Chuck Morganson, HNTB-B&C (via e-mail) with Dwg list only  
CS File No. M544.1.5.0160

Enclosure:

CD containing:

- 1) CN1300 Drawings listed on attached sheet
- 2) CN1300 Specifications
  - 34 41 13 Traffic Signals
  - 34 42 13 Surface Signaling System General Requirements (Issued for Bid)
  - 34 42 15 Surface Signaling System Wayside Equipment (Issued for Bid)
  - 34 42 19 Vital Interlocking Logic Controllers (Issued for Bid)