central central

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Transmittal

CS Transmittal No. 2509

To:	Jeff Davis	From:	John Funghi
	FTA, TRO-9	Project No./Contract No.:	M544.1, CSP
	90 Seventh Street, Suite 15-300	Task No./Title:	Cost/Schedule Management
	San Francisco, CA 94103-6701	Project Phase:	Construction
Date:	December 20, 2017	Subject:	Monthly Progress Report November 2017

Sent via: 🗌 mail	overnight	🗌 messenger 🗌 hand-deliv	rered
☐ fax – No:	_	🛛 email – Address: jeffrey.s.davis@	<u>Ddot.gov</u>
The following: copy of letter/memo minutes/agenda report presentation cd / dvd specifications half-size drawings full-size drawings sketches/maps/layouts reference material other	 estimate schedule deliverable review comment form no review comment for review comments response to comments concurrence with response verification of incorporation acceptance/approval 	incorporation of comments s verification onse signature	Due date: N/A

Item No.	Copies	Description	Rev. No.	Date
1	1	Monthly Progress Report (November 2017)	0	12/20/2017
		If enclosures are not as noted, kindly notify us at once.		

Remarks: This Monthly Progress Report includes cost and schedule details as appendices.

John Funghi Program Director JOF: dl

cc: John Lackey, PMOC (Jal@deainc.com) Pete Hankovszky, PMOC (PHankovszky@deainc.com) Bill Byrne, PMOC (BByrne@deainc.com) Luiz Zurinaga, SFCTA (luis.zurinaga@sfcta.org) Anna LaForte, SFCTA (anna.laforte@sfcta.org) Maria Lombardo, SFCTA (maria.lombardo@sfcta.org) Bernardo Bustamante (Bernardo. Bustamante@dot.gov) Kim Nguyen (Kim.Nguyen@dot.gov) Edward Reiskin, SFMTA Albert Hoe, SFMTA Ethan Veneklasen, SFMTA

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Municipal Transportation Agency



530 Bush Street, Suite 400 San Francisco, CA 94108

central subway

Bring in the Rails

Both the north and southbound tracks are being placed between King and Bluxome ahead of track foundation work.





November 2017











nsportation Agency

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<u>Cover photo:</u> With rails going into place along the first block of 4th street past King, workers are preparing to construct track foundation infrastructure. Crews will work with surveyors to assure exact track placement and elevation prior to pouring sections of the reinforced concrete track foundation slab along the surface portion of the alignment. More photos can be found starting on page 37.

<u>Above photos</u>: Looking toward the north end of the Chinatown Station platform cavern, the twin subway tunnels and north emergency egress shaft are clearly visible during the final stages of excavation there. Workers have since finished work excavating the north portion of the platform cavern and are finishing the south cavern.

See the Appendix E final page for CS websites hyperlinks and public outreach on line resources. The Project main web site is at: <u>http://www.centralsubwaysf.com/</u>



A crew constructs massive reinforced concrete beams along the outer walls of the station box, as part of permanent structural reinforcing.

Executive Summary

Chinatown Station - Completed excavation and support for Platform Cavern North (PCN) Center Drift (top heading, bench, invert). Completed on Cross Over Cavern (COC) Left Side Drift. 50% completed COC Center Drift (top heading, bench, invert). Continued street work (minor), ongoing monitoring and surveying. 60% completed barrel vault installation for COC (through Reach 1, 2, and 3 of 7). Excavated and installed Level 6 Walers and Struts. Started compensation grouting.

Union Square/Market Street Station - Platform Station: Continued construction of wale encasements at Platform and Mezzanine levels. Commenced installation of "Scalloped Walls" at Platform Level. Emergency exit stairs 3 and 4: Continued F/R/P for walls, stairs, and landings. North Concourse: Continued HVAC shaft construction including wale encasement and wall construction at fan level. F/R/P permanent struts and deck slabs at Concourse level. South Concourse: Continued escalator ramp walls and slab transition. Ellis Street: Continued pavement restoration work at Ellis Street. Stockton Street: Implemented 2017 Holiday Moratorium Winter Walk.

Yerba Buena/Moscone Station - Continued to replace the force main and AWSS at 4th & Howard. Continued to investigate utility conflicts for 36" force main at Howard. Continued Stair 4 shoring and excavation. 80% completed on electrical rough-in on Mezzanine—Station box. Poured Middle Section East Side topping slab, Mezzanine—Station box. 60% completed on electrical rough-in on Concourse—Station Box. Poured CN102 and CN104 topping slab in Concourse-Station box. Began installing Pyrok, Platform level. Began Rough-in Fire Sprinkler (Headhouse Invert). Delivered electrical substation gear. 25% completed on electrical rough-in on Headhouse-Invert. Completed F/R/P Headhouse Concourse deck. Completed F/R/P Stair 5 & 6 at Headhouse-Concourse. Completed F/R/P Elevators 3 & 4 walls. Began F/R/P Headhouse-Concourse walls. Continued F/R/P Headhouse-Concourse columns. Began F/R/P Headhouse-Mezzanine deck.

Surface, Track and Systems– Continued 18"AWSS lateral installation on 4th/Brannan intersection. Completed 12" water line installation at 4th/Bryant. Continued OCS pole installation. Started installing track; completed section between King and Townsend, including 4th/Townsend intersection. Continued track plinth construction and track installation inside tunnels. Completed pavement renovation at 4th/Townsend intersection.

Tunnel - Contract administrative closeout is ongoing.

Total project costs to date are \$1,151.24 million, an increase of \$11.72 million over last month. The total cost to date equals 72.94% of the total project budget of \$1.578 billion. The Master Project Schedule fore-casts a Revenue Service Date of December 2019.

The Stations Contractors' Safety Reports shows no recordable accident took place this month. The rates of work site accident incidents by the man hours worked continue to be below industry standards - see tables on page 32.

Key Milestones

Construction of the 2017 Winter Walk Holiday Plaza



1 Equipment is removed, the site is graded, and utilities are installed



2 The green turf is assembled along Stockton between Geary and Ellis

MILESTONE	DATE EXPECTED
General	
Revenue Service	December 2019
Contract 1300 Stations, St	urface, Track, Systems
Notice to Proceed (NTP 1)	June 17, 2013 (A)
Notice to Proceed (NTP 2)	January 12, 2014 (A)
Substantial Completion	February 28, 2018



3 Benches, lighting, and safety barriers are installed. The site is open!

Costs and Schedule

Costs (See Appendix A for Details)

The Current Cost Estimate (CCE) for the Central Subway Project is **\$1.578 billion** in year of expenditure dollars (\$YOE). This total project cost is shown at the top of Report 7.1, Program Project Budget. This capital cost projection incorporates allocated and unallocated contingencies to cover the risks associated with the project completion.

Total net incurred costs for the project are \$1,151.24 million, a \$11.72 million increase over last month. The cost to date figure reflects expenditures through FAMIS 786 Report (\$1,097.45 million) plus the utilities joint trench Form B Reimbursement payment (\$11.27 million), invoices currently being processed (\$37.98 million) and estimates of outstanding pay requests (\$4.58 million). This incurred amount equals 72.94% of the total project budget of \$1.578 billion.

The current funding level to date is \$1,479.79 million. This represents 94% of the total project budget.

Earned Value Analysis

In November 2017 Report, the Preliminary Earned Value Analysis reports is based on the SFMTA November Schedule Update. The Planned Value, Earned Value, Actual Cost, Percent Complete and resulting indexes as follows:

Preliminary November Earned Value

Overall Budgeted Cost:	\$1,578,300,000
Planned Value:	\$1,468,383,718
Earned Value:	\$1,158,066,262
Actual Cost:	\$1,151,241,688
Schedule Performance Index (SPI):	0.79
Cost Performance Index (CPI):	1.01
Percent Complete:	73.3%

*November 2017 Notice: The City continues to transition from FAMIS to Financial System Project (FSP). During the transition, we are unable to provide accurate financial updates. Once FSP is updated and validated, we will reconcile our reports accordingly. We will be projecting current expenditures and anticipate the reconciled updates will be available early next year.

Please note that we continue to experience problems that are being caused by error and inaccuracy from the transition. The sources of error include errors resulting from mapping index codes in the old FAMIS system to translating chartfield accounts in the new Financial System Project as well as errors arising through processing such as abatements and adjustments being assigned to the incorrect account. As we continue to address these data quality problems through data cleaning, you will continue to see monthly fluctuations as we detect and remove errors and inconsistencies from data in order to improve on the quality of data so that we will be able to report accurate data.

Schedule Highlights

The Master Project Schedule (MPS) below includes progress through November 2017. The November 2017 Schedule Update submittal from Contract 1300 Contractor was not submitted as the CN1300 Contractor has not provided the updated corrections to their June, through September 2017 Schedule Updates. The Contract 1300 schedule represented in this report is based on the SFMTA November 2017 Schedule Update.

The MPS shows a forecast Revenue Service Date of December 2019.

The controlling critical (longest) path of the MPS runs through CTS Excavation succeeded by Headhouse Concrete work, Electrical activities, STS Startup & Testing, Commissioning and Pre-Revenue Activities to the Baseline Finish and Revenue Service Date. See Appendix B – Longest Path. The latest schedule shows the longest path running through the Chinatown Station (CTS). Contractor is required to implement a Recovery Schedule to put the Project back on schedule.

Schedule Contingency is fully utilized on the critical path of the MPS, which is below the Minimum Schedule Contingency level of 6 months. A schedule re-evaluation will be performed, utilizing the updated Contract 1300 Schedule. Recovery options are being implemented in key areas as work proceeds. SFMTA continues to meet with Contractor to discuss all schedule concerns and comments. Excavation and Support of the Top Center Drift, Center Bench and Invert Steps of the South Platform Cavern continues. Despite expected ground conditions as described in the GBR, TPC's mining productivity has not been as planned. In an effort to recover some lost time, the Engineer of Record authorized a change of working sequence allowing TPC to perform South Drift excavation of the Crossover prior to completing the South Platform Cavern excavation. These changes allowed Contract 1300 Schedule to maintain the current forecasted Revenue Service Date of December 2019 for the sixth month without additional delay.

Contract 1300 Contractor submitted thirty five (35) Schedule Updates from December 2014 to October 2017. SFMTA rejected twenty (20) Schedule Updates from January 2016 to April 2016 and June 2016 to September 2017 due to multiple and repetitive issues that vary from incorrect working sequences to unrealistic forecasted completion dates to artificially steering the schedule longest path through certain portions of the project. SFMTA approved as noted December 2014 through December 2015, and May 2016 Schedule Updates. Contractor has been directed to develop a Recovery Schedule as required by Contract to mitigate the current forecasted project delay. The 18 month "gap" of missing Schedule Updates at the beginning of the job has interfered with efficient resolution of Contractor's assertions of Unavoidable Delay to the project-wide Substantial Completion date, which is additionally impacting the Contractors review of options for schedule recovery.



Heavy-duty scaffolding is being assembled inside the north concourse adjacent to Union Square to prepare for construction of the upper level floor slab.

Contract 1300 - WP1253 UMS / WP1254R CTS / WP1255 YBM / WP1256 STS:

The Contractor, Tutor Perini Corporation's (TPC) baseline schedule is incorporated into the master program schedule. The preliminary SFMTA Contract 1300 November 2017 schedule is used within the November Report. The SFMTA Contract 1300 November 2017 schedule is based on the approved baseline schedule logic with adjustments made for fixing retained logic and lags. The SFMTA will continue to use the SFMTA Contract 1300 schedule update as a forecasting tool going forward until the Contract 1300 Contractor submits an acceptable schedule that addresses all of SFMTA scheduling concerns.

Work Package P-1254R (CTS) has performed the following work this month:

- Completed excavation and support for Platform Cavern North (PCN) Center Drift (top heading, bench, invert)
- Completed on Cross Over Cavern (COC) Left Side Drift
- 50% completed COC Center Drift (top heading, bench, invert)
- Continued street work (minor), ongoing monitoring and surveying
- 60% completed barrel vault installation for COC (through Reach 1, 2, and 3 of 7)
- Excavated and installed Level 6 Walers and Struts
- Started compensation grouting

Work Package P-1253 (UMS) has performed the following work this month:

- Platform Station: Continued construction of wale encasements at Platform and Mezzanine levels. Commenced installation of 'Scalloped Walls' at Platform Level
- Emergency exit stairs 3 and 4: Continued F/R/P for walls, stairs, and landings
- North Concourse: Continued HVAC shaft construction including wale encasement and wall construction at Fan Level. F/R/P permanent struts and deck slabs at Concourse level
- South Concourse: Continued escalator ramp walls and slab transition
- Ellis Street: Continued pavement restoration work at Ellis Street
- Stockton Street: Implemented 2017 Holiday Moratorium Winter Walk

Work Package P-1255 (YBM) has performed the following work this month:

- Continued to replace the force main and AWSS at 4th & Howard
- Continued to investigate utility conflicts for 36" force main at Howard
- Continued Stair 4 shoring and excavation
- 80% completed on electrical rough-in on Mezzanine Station box
- Poured Middle Section East Side topping slab, Mezzanine Station box
- 60% completed on electrical rough-in on Concourse Station box

Schedule Highlights - Continued

- Poured CN102 and CN104 topping slab in Concourse Station box
- Began installing Pyrok, Platform level
- Began Rough-in Fire Sprinkler (Headhouse Invert)
- Delivered electrical substation gear
- 25% completed on electrical rough-in on Headhouse-Invert
- Completed F/R/P Headhouse Concourse deck
- Began F/R/P Headhouse-Concourse walls
- Completed F/R/P Stairs 5 & 6 at Headhouse-Concourse
- Completed F/R/P Elevators 3 & 4 walls
- Continued F/R/P Headhouse-Concourse columns
- Began F/R/P Headhouse-Mezzanine deck

Work Package P-1256 (STS) has performed the following work this month:

- Continued 18" AWSS installation on 4th/Brannan intersection
- Completed 12" water line installation at 4th/Bryant
- Continued OCS pole installation
- Started installing track; completed section between King and Townsend, including 4th/ Townsend interesection
- Continued track plinth construction and track installation inside tunnels
- Completed pavement renovation at 4th/Townsend intersection



Concrete is removed from around the tops of soldier piles surrounding emergency egress stairs on O'Farrell as part of cleanup work ahead of the 2017 Winter Walk.

Master Project Schedule

Activity ID Activity Name	Original Start	Start	Fhish			20	2018			2019	6			2020	
	Duration			8	a	8	8	8	a	8	8	8	a	60	8
CENTRAL SUBWAY PROJECT	4442	06/03/03 A	06/12/20											Ĩ	CENTRAL SU
Program Level Milestones	184	06/03/03 A	11/26/19					T	1		1	Ĩ	Program Level Milestones	M lestones	
PJD1000 Central Subway Project Start	•	06/03/03 A													
MS0004A Turnel Excavation Complete - Project Milestone #4A	•		09/05/14 A												
MS 0013 Baseline Finish Data: 12-26-2018	•		11/26/19*									●	eline Finish	Baseline Finish Date: 12-26-2018	018
MS0003 CSP Revenue Service Date	•		11/26/19*						+		+	\$ ◆	 CSP Revenue Service Date 	ervice Date	
Preliminary Engineering Phase	2661	06/03/03 A	01/07/10 A												
Final Design	ŧ	01/08/10 A	06/17/13 A												
Light Rail Vehicles	2328	OMISTI3 A	08/23/13					ŀ			Ē	Light Rall Vehicles	88		
Real Estate	3130	08/01/08 A	11/2/11		Real Estate										
Construction Phase	2723	01/04/10 A	02/12/20											Ĩ	Construction
Construction Support and Costs	3078	01/04/10 A	06/12/20					I				T		Ĩ	onstruction
Construction Utility Contract #1-MOS & Portal CN-1250	202	01/04/10 A	05/23/11 A												
Construction Utility Contract #2 - UMS CN-1251	¥	01/12/11 A	10/15/12 A												
Construction Tunnels CN-1252	1518	06/08/11 A	11/2/11	Ĭ	Construction Trunnels CN-1252	Innels CN-12	8								
Construction CN-1300	1704	06/03/13 A	09/12/19								ľ	construction CN-1300	CN-1300		
CN- 1300 Milestone	1627	06/17/13 A	09/12/19					T			- <u>5</u>	CN-1300 Milestone	stone		
Construction UMS Station P-1253	1704	06/17/13 A	06/15/19	 						Ĩ	Construction UMS Station P-1253	MS station	P-1253		
Construction CTS Station P-1254R	1563	06/17/13 A	06/15/19	 						Ĩ	Construction CTS Station P-1254R	TS Station	P-1254R		
Construction YBM Station P-1255	1651	06/10/13 A	06/17/19							Ĩ	Construction YBM Station P-1255	/BM Station	P-1255		
Construction \$T\$ P-1256	1612	06/03/13 A	08/22/19								Construction 575 P-1256	fruction STS	3 P-1256		
Project Start Up	ä	06/14/19	11/26/19							•		Ē	Project Start Up		
Unallocated Contingency	202	11/2/11	11/25/19	•				T	1	1		ŝ	Unallocated Cohtingency	ntingency	
CO1.700 Cost Activity Unallocated Contingency (LOE) - 1.7.500.59.090.00 - Continnence	202	11/2/11	11/26/19									ŝ	t Activity U	Cost Activity Unallocated Contingency (L	ntingency (L
															-



View looking down the southbound track inside the Yerba Buena/Moscone station box, with workers having recently removed scaffolding from the platform level of the headhouse (photo right).

Contracts & Construction

Construction Contracts In Progress

Contract 1300: Combined Work Packages 1253, 1254, 1255, 1256

- Contractor:
- Tutor Perini Corporation
- Amount: \$847.80 million
- Contract Status: 65.24 % complete construction

Contracts Completed

Contract 1250: Moscone Station and Portal Utilities Relocation

Contract 1251: Union Square/Market Street Station Utility Relocation

Contract 1277: Pagoda Theater Site Demolition (Funded separately from the CS Project budget)

Contract 1252: Central Subway Tunneling

Contract SBE Participation (Updated Quarterly) See Appendix E

See Appendix D

Stations, Surface, Track and Systems

Contract 1300 Contractor: Tutor-Perini Corporation

Description of Work

The Contract 1300 scope is to construct the Central Subway's three subway stations, one surface station, construct the 2,000 feet of surface track, and install track and operating systems throughout the new alignment. The separate station and systems work packages are presented in the following pages.

Work includes station finishes, AC and DC substations, elevators, escalators, lighting, emergency ventilation fans, HVAC fire alarm/ suppression/ protection, Cutter Soil Mixing, secant pile bottom up and Sequential Excavation Method construction, settlement monitoring, building protection, connecting to and modifying the BART Powell Street Station, PA, CCTV, signage, installation of fare collection equipment and station start-up and commissioning.

Contract I	Details		
Contract Awarded:	May 21, 2013	Budget/Expe	nditures⊾
Notice to Proceed:	June 17, 2013	Current Budget	\$879,676,400
Substantial Completion:	February 28, 2018	Other Project Offset	\$3,123,097
Contract Award Value:	\$839,676,400	Credits	
Modifications to Date (\$):	\$8,121,714	Expenditures to Date	\$560,888,845
Modifications to Date (Days):	18		
Current Contract Value:	\$847,798,114		

1300 Summary Schedule

Activity Name	20	13			2)14			2)15			20	16			20	117			20	18			2)19
	2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
CENTRAL SUBWAY PROJECT																										
Construction Phase																										
Construction CN-1300																										
CN-1300 Milestone	(•	 	 	_			((ļ
Construction UMS Station P-1253							1											1								
Construction CTS Station P-1254R										†							 						, ,	l	i 	ļ
Construction YBM Station P-1255																										
Construction STS P-1256											i 							ļ			i 				i 	

Chinatown Station

Contract 1300 - Work Package 1254R



Current Work Status

- Completed excavation and support for Platform Cavern North (PCN) Center Drift (top heading, bench, invert)
- Completed on Cross Over Cavern (COC) Left Side Drift
- 50% completed COC Center Drift (top heading, bench, invert)
- Continued street work (minor), ongoing monitoring and surveying
- 60% completed barrel vault installation for COC (through Reach 1, 2, and 3 of 7)
- Excavated and installed Level 6 Walers and Struts
- Started compensation grouting

Work Expected Next Month

- Begin placing smoothing layer of shotcrete for PCN
- Cross Over Cavern continue Center Drift Excavation (top heading, bench, and invert)
- Cross Over Cavern continue Center Drift Excavation (top heading, bench, and invert)
- Complete compensation grouting
- Complete excavate and install Level 6 Walers and Struts

Place smoothing layer of shotcrete for Platform Cavern North

Description of Work

This Work Package is to construct one subway station. Includes station finishes, AC and DC Traction Power substations elevators, escalators, lighting, emergency ventilation fans, HVAC fire alarm/ suppression/ protection, slurry wall top-down construction, settlement monitoring, building protection, PA, CCTV, signage, installation of fare collection equipment and station start-up and commissioning.



Three Month Look Ahead

- Head house: Provide logistic support area for tunnel excavation
- Excavate and install Level 7 Walers and Struts
- Complete excavation of Headhouse; prepare and pour Invert Slab to Headhouse
- Continue and complete Cross Over Cavern Center Drift (top heading, bench, and invert)
- Complete removal of all excavated material from Platform Caverns
- Complete removal of temporary shotcrete arches (interior)
- Continue with placing smoothing layer of shotcrete for CCC, PCS and COC

Station Excavation and Construction Progress Section





North

Station Cavern Excavation Progress Plan and Section

South



Continued from above

Chinatown Station Construction Status - Continued

Contract I	Details	Budget/Expe	nditures ⊾
Contract Awarded:	May 21, 2013	Current Budget	\$257,567,810
Notice to Proceed:	June 17, 2013	Other Project Offset Credits	\$75,000
Substantial Completion:	February 28, 2018	Expenditures to Date	
Contract Award Value:	\$247,567,810		\$161,982,292
Modifications to Date (\$):	\$2,964,460		
Modifications to Date (Days):	18		
Current Contract Value:	\$250,532,270		

CTS Three Month Schedule

ctivity ID	Activity Name	2	017			2018
		Nov	Dec	Jan	Feb	Mar
CENTRAL SUBW	AY PROJECT					
Construction Pha	ise					
Construction CN-130	0					
Construction CTS Sta						
CTS.31.71.800	TB-4 SEM Additional Flashcrete					
CTS.31.71.810	TB-5 SEM Additional Shotcrete					
CTS.31.71.820	TB-6 SEM Additional Lattice Girders					
CTS.31.71.830	TB-7 SEM Additional Steel Arches					
CTS.31.71.840	TB-8 SEM Additional Face Bolts					
CTS.31.71.850	TB-9 SEM Additional Metal Sheets					
CTS.31.71.860	TB-10 SEM Additional Probe Holes					
CTS.31.71.870	TB-11 SEM Additional Grout Holes					
CTS.31.71.880	TB-12 SEM Additional Permeation Grouting		-			
CTS.31.71.890	TB-13 SEM Additional Pocket Excavation					
CTS.31.71.900	TB-14 SEM Additional Drilled Gravity Dewatering Pipes/ Gravity Well Points		-			
CTS.31.71.910	TB-15 SEM Additional Vacuum Well Points					
CTS.31.71.780	TB-2 SEM Additional Grouted Pipe Spiles					
CTS.31.71.790	TB-3 SEM Additional Barrel Vault Pipes		-			
CTS.31.71.770	TB-1 SEM Additional Rebar Spiles					
CTS.GP.73.2017	Chinatown - Rain Day Allocation for Weather Affected Activities - 2017 (Januar					
C.3.880	South Emergency Egress Tunnel M.E.P					
CTS.31.43.140	CTS_ Compensation Grouting - As Required					
CTS.31.71.630	Demo Sidewalls & Repair Headwall South Platform Cavern 176Lf					
CTS.31.71.700	Excavate & Support Center Drift					
CTS.31.71.485	Demo Sidewall, Repair Headwall for North Platform Cavern Excavation					
CTS.31.71.720	Excavate & Support Center Bench - Crossover					
CTS.31.71.730	Excavate & Construct Invert - Crossover					
CTS.31.71.740	Demo Sidewalls, Repair Headwall & Top Joint - Crossover					
CTS.31.71.495	Repair Invert Joint North Platform Cavern 110Lf		1			
CTS.31.50.330	Install Temp Level 6 Struts & Wales & Preload					
CTS.33.51.110	CTS_Perform: Utilities: Gas Line Washington/Stockton			1		
CTS.31.71.520	Initial Excavation & Support - South Emergency Egress Tunnel					
CTS.01.78.100	CTS_Prep/Submit Warranties (Prior to Substantial Completion)					
CTS.31.71.530	Complete Excavation & Support - South Emergency Egress Tunnel		-			
CTS.31.74.870	Final Lining South Emergency Egress Tunnel					
CTS.33.11.220	CTS_Complete Water Distribution - Washington St		-			
CTS.31.20.335	Excavate to 3' Below Level 7 Struts EL -7.5 Col 4.0-11.0		-			
CTS.31.50.370	Install Temp Level 7 Struts & Wales & Preload					
CTS.32.13.270	Re-open Washington Street			CTS.32.	13.270	
CTS.31.71.710	Remove Crossover Excavation Ramp			•		

Schedule: Contract 1300 November 2017 Update 17

Union Square/Market Street Station

Contract 1300 Work Package1253

Description of Work

This Work Package is to construct one subway station. Includes station finishes, AC and DC Traction Power substations elevators, escalators, lighting, emergency ventilation fans, HVAC fire alarm/ suppression/ protection, slurry wall top-down construction, settlement monitoring, building protection, PA, CCTV, signage, installation of fare collection equipment and station start-up and commissioning.

Current Status This Month

- Platform Station: Continued construction of wale encasements at Platform and Mezzanine levels. Commenced installation of 'Scalloped Walls' at Platform Level
- Emergency exit stairs 3 and 4: Continued F/R/P for walls, stairs, and landings
- North Concourse: Continued HVAC shaft construction including wale encasement and wall construction at Fan Level. F/R/P permanent struts and deck slabs at Concourse level
- South Concourse: Continued escalator ramp walls and slab transition
- Ellis Street: Continued pavement restoration work at Ellis Street
- Stockton Street: Implemented 2017 Holiday Moratorium Winter Walk

Work Expected Next Month

- Platform Station: Continue construction of wale encasements at Platform and Mezzanine Levels. Continue scallop wall constructions at Platform level. Commence Deck installation at Mezzanine Level
- Emergency exit stairs 3 and 4: Complete structural work including surface restoration and utilities
- North Concourse: Continue structural work at Fan level and Concourse level
- South Concourse: Remove shoring and formwork in preparation for South Escalator construction.



- Ellis Street: Complete sidewalks at intersection of Stockton Street
- Stockton Street at Market Street: Complete Sidewalks and Crosswalks

Three Month Look Ahead

- Platform Station: Complete construction of wale encasements at Platform and Mezzanine levels. Complete scallop wall constructions at Platform Level. Complete upper level deck installation.
- North Concourse: Complete concourse level slabs
- South Concourse: Commence CMU walls
- North Entrance: Complete construction of planters at street level, complete secondary steel to north entrance structure

Station Excavation and Construction Progress Section





Union Square Market Street Station Construction - Continued

Contract Details]
Contract Awarded:	May 21, 2013	(Cur
Notice to Proceed:	June 17, 2013	E	хре
Substantial Completion:	February 28, 2018		
Contract Award Value:	\$294,030,590		
Modifications to Date (\$):	\$2,748,442		
Modifications to Date (Days):	18		
Current Contract Value:	\$296,779,032		
	Cala a duda		

Budget/Expenditures 🔺

Current Budget\$314,030,590Expenditures to Date\$217,336,632

UMS Three Month Schedule

Activity ID	Activity Name	2017					2018			
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
CENTRAL SUBV	VAY PROJECT									
Construction Ph	350									
Construction CN-13										
Construction UMS S										
UMS.31.50.0780	UMS Backfill, Install Utilities & Restore Street North Of Geary									
							ļ			
UMS.03.30.1830	UMS_Place 6" Mud Stab - South Concourse Stab on Grade		•							
UMS.03.30.1840	UMS_Place Grout Protection Slab - South Concourse Slab on Grade		. '							
UMS.03.37.0700	UMS_Install Drain Pipe & Grout FII Void Between Piles - Roof To Concourse Le									
UMS.22.14.0100	UMS_Install Storm Drainage (22 14 00)			_						
UMS.31.50.0101	UMS_Remove Temporary Excavation Support Level 1 Pour #1									
UMS.22.13.0120	UMS_CN07 - Connect Surface Drainage to Existing 8" Sewer Lateral.									
UMS.22.11.0170	UMS_ISL_Install_DCW Below Concourse Level Slab				_					
UMS.31.50.0107	UMS_Remove Temporary Excavation Support Level 1 Pour #7									
UMS.09.90.0140	UMS_Painting & Coating Concourse Level									
UMS.23.31.0245	UMS_CN_Install HVAC Exhaust Main Exhaust Air Plenum To EXF-002									
UMS.23.31.0275	UMS_CN_Install HVAC Exhaust Main- EXF-002 To Risrs @ A/16						-	_		1
UMS.23.31.0295	UMS_CN_Install HVAC Supply Main SF-002 to Risers @ A/16						-	-		1
UMS.23.31.0305	UMS_CN_09 Install HVAC Duct Branches Mech Rm							I		
UMS.31.50.0201	UMS_Remove Temporary Excavation Support Level 2 - Pour #1		-							
UMS.22.11.0150	UMS_CN09_Install DCW - Sector 2									<u> </u>
UMS.31.20.1345	UMS_Remove Temporary Struts & Wales For South Concourse Escalator									
UMS:27.51.0310	UMS_PSL_Install: Comm: SSFD & Emerg Phone System Raceway - Platform S								•	
UMS.31.50.0207	UMS_Remove Temporary Excavation Support Level 2 - Pour #7									
UMS.03.30.1535	UMS_Form/Rebar/Pour Walls For South Concourse Escalator Upper Landing									
UMS.26.24.1870	UMS_CN_28 Elect Closet Install Raceway - Panelboard E2SHL2 To E3DHL (M2									.
UMS.26.24.1910	UMS_CN_28 Elect Closet Install Raceway- Panelboard 2SHL2 To 3DHL (MZ11)								1	÷.
UMS.32.12.0100	UMS_Pave -Stockton/Market Intersection									
UMS.14.24.0250	UMS_Install Support Brackets & Ralls - Elevator 1									
UMS.03.30.2370	UMS_Form/Rebar - North Concourse Walls - ISL to Concourse Pour #1									
UMS.22.11.0180	UMS_PSL_Install_DCW Below Mezzanine Level Slab			_						
UMS.23.74.0945	UMS_CN_Install Refrigerant Rack Piping - ACCU's to Chase @ A/16									÷
UMS.03.30.1024	UMS_Form/Rebar/ Wale Encasement - Platform Strut Level - Pour #4		-							
UMS.03.30.2430	UMS_Place Concrete - North Concourse Walls - ISL to Concourse Pour #1									
UMS.05.30.2350	UMS_Install Shoring For - North Concourse Wale & Slab on Metal Deck Pour #2		-							
UMS.03.30.0330	UMS_Form /Rebar/ Pour Garage Ventilation Shaft Walls - Concourse to Garage									
UMS.03.30.0335	UMS_Form /Rebar/ Pour Garage Ventilation Shaft Walls - Concourse to Garage									
UMS.05.30.1004	UMS_Install Metal Deck - Mezzanine Level - Pour #4		-	■						1
UMS.12.10.9010	UMS_Initiate Art work Project Kick Off meeting- Suspended Stainless Scroll Scul		 UMS.12.10.9010 							
UMS.12.10.9020	UMS_Initiate Art work Project Kick Off meeting- Suspended Composite Acrylic/ G		UMS.12.10.9020							1
UMS.12.10.9030	UMS_Initiate Art work Project Kick Off Meeting- Graphics for Glass Roof Systemi		UMS.12.10.9030							
UMS.03.30.1011b	UMS_Place Concrete / West Exterior Architectural Walls - Invert to Platform Stru		1							1
UMS.03.30.1011a	UMS_Place Concrete / East Exterior Architectural Walls - Invert to Platform Strui		1							
UMS.03.30.1002	UMS_Rebar/ Exterior Walls - Invert to Platform Strut Level - Pour #2									
UMS.23.73.0315	UMS_CN_Install Air Cooled Condensing Unit #2									1
UMS.31.43.15D	UMS_Compensation Grouting - As Required									L
UMS.08.62.0140	UMS_Install Laminated Glass Roof Walk System Garage Terrace Level									
UMS.03.30.1810	UMS_CN F/R/P Stair 06 Concourse - Up To Ellis Street									
UMS.03.30.1002a	UMS_Form/ East Exterior Wall - Invert to Platform Strut Level - Pour #2		-							1
UMS.03.30.1002b	UMS_Form/ West Exterior Wall - Invert to Platform Strut Level - Pour #2									1
UMS.03.30.1003	UMS_Rebar/ Exterior Walls - Invert to Platform Strut Level - Pour #3									L
UMS.03.30.1012b	UMS_Place Concrete / West Exterior Architectural Walls - Invert to Platform Stru		I	T						T
UMS.03.30.1012a	UMS_Place Concrete / East Exterior Architectural Walls - Invert to Platform Strui		1							1
UMS.23.73.0325	UMS_CN_Install Air Cooled Condensing Unit #3									
UMS.03.30.1003a	UMS_Form/ East Exterior Walls - Invert to Platform Strut Level - Pour #3		1							1
	-									:

Schedule: Contract 1300 November 2017 Update 2

Contract 1300 - Work Package 1255

Description of Work

This Work Package is to construct one subway station. Includes station finishes, AC and DC Traction Power substations elevators, escalators, lighting, emergency ventilation fans, HVAC fire alarm/ sup-pression/ protection, slurry wall top-down construction, settlement monitoring, building protection, PA, CCTV, signage, installation of fare collection equipment and station start-up and commissioning.

Current Status

- Continued to replace the force main and AWSS at 4th & Howard
- Continued to investigate utility conflicts for 36" force main at Howard ongoing
- Continued Stair 4 shoring and excavation
- 80% completed on electrical rough-in on Mezzanine – Station box
- Poured Middle Section East Side topping slab, Mezzanine Station box
- 60% completed on electrical rough-in on Concourse – Station box
- Poured CN102 and CN104 topping slab in Concourse – Station box
- Began installing Pyrok, Platform level
- Began Rough-in Fire Sprinkler (Headhouse Invert)
- Delivered electrical substation gear
- 25% completed on electrical rough-in on Headhouse-Invert
- Completed F/R/P Headhouse Concourse deck
- Began F/R/P Headhouse-Concourse walls
- Completed F/R/P Stairs 5 & 6 at Headhouse-Concourse
- Completed F/R/P Elevators 3 & 4 walls
- Continued F/R/P Headhouse-Concourse columns
- Began F/R/P Headhouse-Mezzanine deck



Work Expected Next Month

- Continue utility work at intersection of 4th & Folsom and 4th & Howard
- Install street lights at 4th and Clementina
- Install new FH at 4th and Folsom
- Complete Stair 4 shoring and excavation
- F/R/P Stair 4 footing rebar
- Continue working on Stair 4 walls
- Place PG&E and AT&T utilities in Stair 4 area per PCC 159
- Complete electrical on Mezzanine Station Box
- Pour South end West Side topping slab, Mezzanine – Station box
- Continue electrical rough-in on Concourse, pour Station Concourse topping slab
- Complete installing Pyrok, Platform level
- F/R/P Stair 1 Walls (Station Platform)

Description of Work

YBM - continued

This Work Package is to construct one subway station. Includes station finishes, AC and DC Traction Power substations elevators, escalators, lighting, emergency ventilation fans, HVAC fire alarm/ suppression/ protection, slurry wall top-down construction, settlement monitoring, building protection, PA, CCTV, signage, installation of fare collection equipment and station start-up and commissioning.

Work Expected Next Month (continued)

- F/R/P Stair 2 (Station Platform)
- Install Elevators 1 and 2 (Station Platform)
- Install Escalators 1 and 2 (Station Platform)
- Continue Rough-in Fire Sprinkler (Headhouse Invert)
- Pour Headhouse Invert topping slab
- Complete F/R/P Headhouse-Concourse columns
- Complete F/R/P Headhouse-Mezzanine deck

Three Month Look Ahead

- Construct Mezzanine slab from bottom up within Headhouse
- Start AT&T and PG&E contract work on Folsom
- Continue interior finishes on Mezzanine & Concourse Levels within Station Box
- Continue placement of stairs within Station and Headhouse
- Begin installation of station power electrical vaults on Folsom Street





Station Excavation and Construction Progress Section



Yerba Buena Moscone Station Construction - Continued

Contract Details						
Contract Awarded:	May 21, 2013					
Notice to Proceed:	June 17, 2013					
Substantial Completion:	February 28, 2018					
Contract Award Value:	\$158,089,000					
Modifications to Date (\$):	\$309,825					
Modifications to Date (Days):	18					
Current Contract Value:	\$158,398,825					

Budget/Expenditures 🔺					
Current Budget	\$163,089,000				
Other Project Offset Credits	\$415,331				
Expenditures to Date	\$114,392,383				

YBM Three Month Schedule

	Nov					2018			
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
NAY PROJECT									
ase									
00									
tation P-1255									
Open all Traffic- 4th Street				ı					
Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00)									+
YBM PL 207 - Aux Elect Rm: Install - System Ground Bus					- I				
YBM_MZ 301 - Aux Elect Rm: Install - System Ground Bus									
YBM_CN 320 - Aux Elect Rm: Install - System Ground Bus									
YBM_PL 106 - Aux Elect Rm: Install - System Ground Bus									
Erect/ Plumb/ Weld Structure Steel, Headhouse/ Vent Shaft Structure			+		•••••	<u> </u>			+
YBM_MZ Install Fire Protection System Branches & FHC's - Mezzanine Sector 1									
YBM_MZ Install Fire Protection System Branches& FHC's - Mezzanine Sector 2									
Install Fire & Smoke Protection, Mineral Wool, Concourse Level (07 80 00)									
YBM_IV301 - Main Elect Rm:Install Riser Conduit In Chase To Mezz Mech Rm									
YBM_CN Install Domestic Water- Concourse Sector 1			+			<u> </u>			÷…
YBM_CN Install Domestic Water- Concourse Sector 2									
YBM_CN Install Fire Protection System Branches, Drops & FHC's -Concourse S									
YBM_CN Install Fire Protection System Branches, Drops & FHC's -Concourse S									
Install Stair #4 Rails from Platform to Mezz Level						1			
YBM PL Install Fire Protection System Branches & Drops - Above Platform Secto			•••••••••••••••••••••••••••••••••••••••		•••••				+
Acoustical Cement Plaster Station below Platform walls (09 83 14)									
YBM_PL Install Fire Protection System Branches & Drops - Above Platform Secto									
YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1									
YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 2									
YBM_PL 106 - Aux Elect Rm: Install Raceway - Panelboard LCP-1N (Lighting Co			+		•••••	;			÷…
YBM_PL 207 - Aux Elect Rm: Install - Panelboard 1SHL (NB/SB Tunnel Lighting									
YBM_PL 207 - Aux Elect Rm: Install Raceway - Panelboard E1SHL									
YBM_PL 106 - Aux Elect Rm: Install Raceway - Panelboard 1NHL (Public Lighti									
YBM_MZ_202 - Plenum#1: Install -Tunnel Ventilation Dampers TD-23 & 24									
YBM_PL 106 - Aux Elect Rm: Install Raceway - Panelboard E1NHL			+		•••••	†			+
YBM_MZ_202 - Plenum#1: Install -Tunnel Ventilation Dampers SD-01A & 01B									
YBM_MZ_202 - Plenum#1: Install -Tunnel Ventilation Dampers TD-21 & 22									÷
YBM_PL 207 - Aux Elect Rm: Install Raceway - Panelboard 1SP1 (Recptacles)		•							
YBM_PL 207 - Aux Elect Rm: Install Raceway - Panelboard 1SHP		-							
YBM_PL 207 - Aux Elect Rm: Install Raceway - Panelboard LCP-1S			1			¦			÷
YBM_PL 106 - Aux Elect Rm: Install Raceway - Panelboard 1NP									
YBM_PL 106 - Aux Elect Rm: Install Raceway - Panelboard E1NP (Receptades)									
YBM_PL 106 - Aux Elect Rm: Install Raceway - Panelboard 1NHP						1			
YBM_PL 207 - Aux Elect Rm: Install Raceway - Panelboard E1SP									
YBM_Install: Elect: Roadway Lighting (26 56 19)]			T
YBM_IV Install Fire Suppression System DSP & TSP Mains Under Platform Section			-			1			1
YBM_MZ 301 - Aux Elect Rm: Install - Emergency Ventilation Panel						1	- E		
F/R/P Concourse Level Columns									
YBM_IV Install Fire Suppression System DSP & TSP Mains Under Platform Section									
	00 ation P-1255 Open all Traffic-4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_PL 207 - Aux Elect Rm: Instal - System Ground Bus YBM_OR 320 - Aux Elect Rm: Instal - System Ground Bus YBM_PL 106 - Aux Elect Rm: Instal - System Ground Bus YBM_VEND Weld Structure Steel, Headhouse/ Vent Shaft Structure YBM_MZ Install Fire Protection System Branches & FHC's - Mezzanine Sector 2 Install Fire Protection System Branches & FHC's - Mezzanine Sector 2 Install Fire Protection System Branches, Drops & FHC's - Concourse Sector 1 YBM_QCI Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_CN Install Domestic Water- Concourse Sector 2 YBM_CN Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_CN Install Fire Protection System Branches & Drops -Above Platform Secto YBM_PL Install Fire Protection System Branches & Drops -Above Platform Secto YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 2 YBM_PL 108 - Aux Elect Rm: Install - Panelboard LCP-1N (Lighting Ct YBM_PL 207 - Aux Elect Rm: Install Raceway - Panelboard 1NHL (Public Lighting YBM_PL 207 - Aux Elect Rm: Install Raceway -	ation P-1255 Open all Traffic-4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_PL 207 - Aux Elect Rm: Install - System Ground Bus YBM_PL 100 - Aux Elect Rm: Install - System Ground Bus YBM_PL 100 - Aux Elect Rm: Install - System Ground Bus Prect/Plumb/Weld Structure Steel, Headhouse/Vent Shaft Structure YBM_ZInstall Fire Protection System Branches & FHC's - Mezzanine Sector 1 YBM_ZInstall Fire Protection System Branches & FHC's - Mezzanine Sector 2 Install Fire & Smoke Protection, Water- Concourse Level (07 80 00) YBM_CN Install Domestic Water- Concourse Sector 2 YBM_CN Install Domestic Water- Concourse Sector 2 YBM_CN Install Fire Protection System Branches, Drops & FHC's - Concourse 5 YBM_CN Install Fire Protection System Branches, Drops & ShOve Platform Secto Acoustical Cemert Plaster Station below Platform walis (09 83 14) YBM_PL Install Fire Protection System Branches & Drops -Above Platform Secto YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL Install Fire Protection System Branches & Drops -Above Platform Secto YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 <tr< td=""><td>00 abon P-1255 Open all Traffic-4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_PL 207 - Aux Elect Rm: Install - System Ground Bus YBM_CN 320 - Aux Elect Rm: Install - System Ground Bus YBM_PL 108 - Aux Elect Rm: Install - System Ground Bus YBM_PL 108 - Aux Elect Rm: Install - System Ground Bus YBM_ZINTALIF Fer Protection System Branches & FHC's - Mezzanine Sector 1 YBM_ZUN311 Fire Protection System Branches & FHC's - Mezzanine Sector 2 Install Fire & Smoke Protection, Mineral Wool, Concourse Level (07 80 00) YBM_ZON Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_CN Install Domestic Water - Concourse Sector 1 YBM_CN Install Domestic Water - Concourse Sector 2 YBM_CN Install Fire Protection System Branches, Drops & FHC's - Concourse 5 YBM_CN Install Fire Protection System Branches, Drops & FHC's - Concourse 5 YBM_PL Install Fire Protection System Branches & Drops - Above Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL 108 - Aux Elect Rm: Install Roeway - Paneboard EISHL YBM_PL 108 - Aux Elect Rm: Install Roeway - Paneboard EISHL YBM_PL 108 - Aux Elect Rm: Install Roeway - Paneboard EISHL </td></tr<> <td>00 affon P-1235 Open all Traffio-4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_PL 207 - Aux Elect Rm: Install - System Ground Bus YBM_PL 207 - Aux Elect Rm: Install - System Ground Bus YBM_DOL 320 - Aux Elect Rm: Install - System Ground Bus YBM_PL 100 - Aux Elect Rm: Install - System Ground Bus Erect/Plumb/Weld Structure Steel, Headhouse/Vert Shaft Structure YBM_PL 100 - Aux Elect Rm: Install - System Ground Bus YBM_MZ.Install Fire Protection System Branches& FHC's - Mezzanine Sector 1 YBM_VCIN Haall Ener Protection System Branches& FHC's - Mezzanine Sector 2 YBM_VDI VAID Elect Rm:Install Riser Conduit In Chase To Mezz Mech Rm YBM_VCIN Haall Domestic Water- Concourse Sector 1 YBM_VDI Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_ON Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_DL Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_ON Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_DL To Haall Fire Protection System Branches, Drops & Above Platform Sector 1 YBM_PL Install Fire Protection System Branches, Drops & Above Platform Secto YBM_DL To Haall Fire Protection Delaye Main - Under Platform Sector 1 YBM_PL 100 - Aux Elect Rm: Install Raneway - Paneboart 1DC-1N (Lipting Cr. YBM_PL 100 - Aux Elect Rm: Install Raneway - Paneboart 1SHL YBM_PL 100 - Aux Elect Rm: Install Raneway - Paneboart 1SHL</td> <td>Biologen all Taffie 4h Street Install File & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM, PL 207 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 207 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, ZU Install Fre Protection System Branches & FHO's - Mezzanine Sector 1 YBM, ZN Install Fre Protection System Branches, Drops & FHO's - Mezzanine Sector 2 YBM, CN Install Domestic Water - Concourse Sector 2 YBM, CN Install Free Protection System Branches, Drops & FHO's - Concourse 5 YBM, ZN Install Free Protection System Branches, Drops & FHO's - Concourse 5 YBM, ZN Install Free Protection System Branches, Drops & FHO's - Concourse 5 YBM, ZU Install Free Protection System Branches, Drops & Above Platform Sector Acoustical Cement Plaster Station below Platform Sector 1 YBM, PL Instal File Protection Deluge Mains - Under Platform Sector 2 YBM, PL 108 - Aux Elect Rm: Instal Raxeway - Paneboart 1NHL (Public Lighting VBM, PL 207 - Aux Elect Rm: Instal Raxeway - Paneboart 1NHL (Public Lighting VBM, PL 207 - Aux Elect Rm: Instal Raxeway - Paneboart 1NHL (Public Lighting VBM, PL 207 - Aux Elect Rm: Instal</td> <td>Bion P-1253 Open all Taffio- 4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z1 Install Fire Protection System Branches & FHCS - Mezzanine Sector 1 YBM_Z01 Natll Fire Protection System Branches & FHCS - Mezzanine Sector 2 YBM_Z01 Natll Fire Protection System Branches & FHCS - Concourse Sector 2 YBM_Z01 Natall Fire Protection System Branches, Drops & FHCS - Concourse 5 YBM_Z01 Natall Fire Protection System Branches, Drops & FHCS - Concourse 5 YBM_Z01 Install Fire Protection System Branches, Drops & FHCS - Concourse 5 YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection Daluge Mais - Under Platform Secto YBM_Z01 Install Fire Protection Daluge Mais - Under Pla</td> <td>00 attom P-1253 0 pen all Traffic-4th Street instal Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Branches & FHC's - Mezzanine Sector 1 issue 178M_OR Install Fire Protection System Branches, Drops & FHC's - Concourse 5 issue 178M_OR Install Fire Protection System Branches, Drops & FHC's - Concourse 5 issue 178M_PL Instal Fire Protection System Branches, Drops & FHC's - Concourse 5 issue 178M_PL 101-Altist from Protection Datage Mains - Under Platform Sector 2 issue 178M_PL 101-Aux Eleer Rm: Install Raceway - Paneboard IDP-1N Lighting Cr issue 178M_PL 100-Aux Eleer Rm: Install Raceway - Paneboard EISH. issue 178M_PL 100-Aux Eleer Rm: Install Raceway - Paneboard EISH. issue 178M_PL 100-Aux El</td> <td>00 Autor 2-12/5 00 Par al Traffic-4h Street I Instal Fire & Smoke Protection, Mineral Wool, Miczzanne Level (07 80 00) YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 Instal Fire Frotection System Branches & FHCs - Miczanine Sector I YBM, M2 Instal Fire Frotection System Branches & FHCs - Miczanine Sector I I YBM, V201 - Man Bed Rm. Instal - System Ground Pase Image Sector I YBM, V201 - Man Bed Rm. Instal - System Ground Pase Image Sector I YBM, V201 - Man Bed Rm. Instal Fire Frotection System Branches & Tops & FHCS - Concourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & FHCS - Concourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & FHCS - Concourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & Abort SConcourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & Abort SConcourse 5 Image Sector I YBM, V1 Instal Fire Frotection Days Branches. Drops & Abort SConcourse 5 Image Sector I YBM, V1 Instal Fire Frotection Days Branches. Drops & Abort SConcourse 5 Image Sector I YBM, PL I</td> <td>atom 74.025 Dops all Traflie-4ft Street Instal Fine & Smoke Protection, Mineral Wook, Mazzamine Level (07 80 00) YBM, PL. 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - Starter Eleck 20 YBM, VL 103-LIN Eleck Tim. Install - Starter Eleck 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Eleck 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Biolek 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Biolek 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Biolek 20 YBM, PL 104-Lin Eleck Tim. Install - Rowey - Paneboard 10PH 10PH 10PH 10PH 10PH 10PH 10PH 10PH</td>	00 abon P-1255 Open all Traffic-4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_PL 207 - Aux Elect Rm: Install - System Ground Bus YBM_CN 320 - Aux Elect Rm: Install - System Ground Bus YBM_PL 108 - Aux Elect Rm: Install - System Ground Bus YBM_PL 108 - Aux Elect Rm: Install - System Ground Bus YBM_ZINTALIF Fer Protection System Branches & FHC's - Mezzanine Sector 1 YBM_ZUN311 Fire Protection System Branches & FHC's - Mezzanine Sector 2 Install Fire & Smoke Protection, Mineral Wool, Concourse Level (07 80 00) YBM_ZON Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_CN Install Domestic Water - Concourse Sector 1 YBM_CN Install Domestic Water - Concourse Sector 2 YBM_CN Install Fire Protection System Branches, Drops & FHC's - Concourse 5 YBM_CN Install Fire Protection System Branches, Drops & FHC's - Concourse 5 YBM_PL Install Fire Protection System Branches & Drops - Above Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL Install Fire Protection Deluge Mains - Under Platform Sector 1 YBM_PL 108 - Aux Elect Rm: Install Roeway - Paneboard EISHL YBM_PL 108 - Aux Elect Rm: Install Roeway - Paneboard EISHL YBM_PL 108 - Aux Elect Rm: Install Roeway - Paneboard EISHL	00 affon P-1235 Open all Traffio-4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_PL 207 - Aux Elect Rm: Install - System Ground Bus YBM_PL 207 - Aux Elect Rm: Install - System Ground Bus YBM_DOL 320 - Aux Elect Rm: Install - System Ground Bus YBM_PL 100 - Aux Elect Rm: Install - System Ground Bus Erect/Plumb/Weld Structure Steel, Headhouse/Vert Shaft Structure YBM_PL 100 - Aux Elect Rm: Install - System Ground Bus YBM_MZ.Install Fire Protection System Branches& FHC's - Mezzanine Sector 1 YBM_VCIN Haall Ener Protection System Branches& FHC's - Mezzanine Sector 2 YBM_VDI VAID Elect Rm:Install Riser Conduit In Chase To Mezz Mech Rm YBM_VCIN Haall Domestic Water- Concourse Sector 1 YBM_VDI Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_ON Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_DL Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_ON Install Fire Protection System Branches, Drops & FHC's - Concourse S YBM_DL To Haall Fire Protection System Branches, Drops & Above Platform Sector 1 YBM_PL Install Fire Protection System Branches, Drops & Above Platform Secto YBM_DL To Haall Fire Protection Delaye Main - Under Platform Sector 1 YBM_PL 100 - Aux Elect Rm: Install Raneway - Paneboart 1DC-1N (Lipting Cr. YBM_PL 100 - Aux Elect Rm: Install Raneway - Paneboart 1SHL YBM_PL 100 - Aux Elect Rm: Install Raneway - Paneboart 1SHL	Biologen all Taffie 4h Street Install File & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM, PL 207 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 207 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, PL 108 - Aux Elect Rm: Instal - System Ground Bus YBM, ZU Install Fre Protection System Branches & FHO's - Mezzanine Sector 1 YBM, ZN Install Fre Protection System Branches, Drops & FHO's - Mezzanine Sector 2 YBM, CN Install Domestic Water - Concourse Sector 2 YBM, CN Install Free Protection System Branches, Drops & FHO's - Concourse 5 YBM, ZN Install Free Protection System Branches, Drops & FHO's - Concourse 5 YBM, ZN Install Free Protection System Branches, Drops & FHO's - Concourse 5 YBM, ZU Install Free Protection System Branches, Drops & Above Platform Sector Acoustical Cement Plaster Station below Platform Sector 1 YBM, PL Instal File Protection Deluge Mains - Under Platform Sector 2 YBM, PL 108 - Aux Elect Rm: Instal Raxeway - Paneboart 1NHL (Public Lighting VBM, PL 207 - Aux Elect Rm: Instal Raxeway - Paneboart 1NHL (Public Lighting VBM, PL 207 - Aux Elect Rm: Instal Raxeway - Paneboart 1NHL (Public Lighting VBM, PL 207 - Aux Elect Rm: Instal	Bion P-1253 Open all Taffio- 4th Street Install Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z01 - Auz Elect Rm: Install - System Ground Bus YBM_Z1 Install Fire Protection System Branches & FHCS - Mezzanine Sector 1 YBM_Z01 Natll Fire Protection System Branches & FHCS - Mezzanine Sector 2 YBM_Z01 Natll Fire Protection System Branches & FHCS - Concourse Sector 2 YBM_Z01 Natall Fire Protection System Branches, Drops & FHCS - Concourse 5 YBM_Z01 Natall Fire Protection System Branches, Drops & FHCS - Concourse 5 YBM_Z01 Install Fire Protection System Branches, Drops & FHCS - Concourse 5 YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection System Branches & Drops -Above Platform Secto YBM_Z01 Install Fire Protection Daluge Mais - Under Platform Secto YBM_Z01 Install Fire Protection Daluge Mais - Under Pla	00 attom P-1253 0 pen all Traffic-4th Street instal Fire & Smoke Protection, Mineral Wool, Mezzanine Level (07 80 00) 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 207-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Ground Bus issue 178M_PL 201-Aux Eleer Rm: Install - System Branches & FHC's - Mezzanine Sector 1 issue 178M_OR Install Fire Protection System Branches, Drops & FHC's - Concourse 5 issue 178M_OR Install Fire Protection System Branches, Drops & FHC's - Concourse 5 issue 178M_PL Instal Fire Protection System Branches, Drops & FHC's - Concourse 5 issue 178M_PL 101-Altist from Protection Datage Mains - Under Platform Sector 2 issue 178M_PL 101-Aux Eleer Rm: Install Raceway - Paneboard IDP-1N Lighting Cr issue 178M_PL 100-Aux Eleer Rm: Install Raceway - Paneboard EISH. issue 178M_PL 100-Aux Eleer Rm: Install Raceway - Paneboard EISH. issue 178M_PL 100-Aux El	00 Autor 2-12/5 00 Par al Traffic-4h Street I Instal Fire & Smoke Protection, Mineral Wool, Miczzanne Level (07 80 00) YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 301 - Aue Bed Rm. Instal - System Ground Bus YBM, M2 Instal Fire Frotection System Branches & FHCs - Miczanine Sector I YBM, M2 Instal Fire Frotection System Branches & FHCs - Miczanine Sector I I YBM, V201 - Man Bed Rm. Instal - System Ground Pase Image Sector I YBM, V201 - Man Bed Rm. Instal - System Ground Pase Image Sector I YBM, V201 - Man Bed Rm. Instal Fire Frotection System Branches & Tops & FHCS - Concourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & FHCS - Concourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & FHCS - Concourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & Abort SConcourse 5 Image Sector I YBM, V1 Instal Fire Frotection System Branches. Drops & Abort SConcourse 5 Image Sector I YBM, V1 Instal Fire Frotection Days Branches. Drops & Abort SConcourse 5 Image Sector I YBM, V1 Instal Fire Frotection Days Branches. Drops & Abort SConcourse 5 Image Sector I YBM, PL I	atom 74.025 Dops all Traflie-4ft Street Instal Fine & Smoke Protection, Mineral Wook, Mazzamine Level (07 80 00) YBM, PL. 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, PL 207 - Aux Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - System Ground Bus YBM, VL 103-LIN Eleck Tim. Install - Starter Eleck 20 YBM, VL 103-LIN Eleck Tim. Install - Starter Eleck 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Eleck 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Biolek 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Biolek 20 YBM, VL 104-LIN Eleck Tim. Install - Starter Biolek 20 YBM, PL 104-Lin Eleck Tim. Install - Rowey - Paneboard 10PH 10PH 10PH 10PH 10PH 10PH 10PH 10PH

Schedule: Contract 1300 November 2017 Update