

**SAN FRANCISCO CABLE CAR BARN  
AT  
1201 MASON STREET  
SAN FRANCISCO, CA**

**ROM CONSTRUCTION COST ESTIMATE  
(AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
BASED ON  
Final Master Plan Documents**

Owner:  
**SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY**  
Attention:  
Email:

Prepared for  
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**Date: 07/22/2022 Final**

**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
(AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
BASED ON FINAL MASTERPLAN DOCUMENTS**

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**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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BASED ON FINAL MASTERPLAN DOCUMENTS  
1.0 BASIS OF ESTIMATE**

**Date: 07/22/2022 Final**

**1.0 Outline**

- 1.1 The purpose of this estimate is to provide a preliminary opinion of probable construction costs based on the Master Plan documents as a budget guideline for further study. The procedure we followed in developing this estimate is consistent with industry standards.
- 1.2 The preliminary construction cost estimate, which represents our opinion of probable construction costs, is comprised of the following integral parts:
- A) Basis of Estimate
  - B) Estimate Summaries
  - C) Estimate Details

**2.0 Documents used for the Estimate**

- 2.1 This Estimate is based on the following documents:
- 1 2022-0328\_Cable Car Barn Draft Master Plan - DPW MTA 1708 CCB Cp,,emts \_EW\_EC\_FINAL
  - 2 2022-0615\_CCB Master Plan Report
  - 3 2022-0616-CCB\_A summary of changes for Cost Estimator\_All
  - 4 Werner Quote \_5.2.22
  - 8 Crane & Hoist Service Quote\_5.6.22

**3.0 Scope**

- 3.1 The general scope of work called out on drawings listed above including:
- Phase 1A:
    - 12KV Electrical Upgrade
  - Phase 1B:
    - 20ton Bridge Crane Upgrade
  - Phase 2:
    - Office improvements
  - Phase 3A:
    - Programming Restructuring
  - Phase 3B:
    - Carpentry Improvements
  - Phase 4:
    - Roof Improvements
  - Phase 5:
    - Seismic Improvements
    - Exterior Improvements
    - Winding Motors
- 3.2 Items specifically excluded from the estimate:
- Hazmat abatement, except where noted
  - Legal fees and finance costs

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Permit & plan check fees  
Utility connection fees  
Owner's administration costs  
Design services  
Survey services, materials lab  
Project/Construction management  
Other soft costs  
Construction Contingency  
Project contingency

It is assumed that the above items, if needed, are included elsewhere in the owner's overall project budget.

**4.0 Assumptions and Qualifications**

4.1 The estimate is based on estimated prices current as of July 2022, with a minimum of four responsible and responsive bids under a competitive bidding environment for a fixed price lump sum contract (a fair market condition).

Note: Experience indicates that fewer bidders may result in higher bids, and conversely more bidders may result in more competitive bids. Therefore it is important to obtain as many bids as possible.

The following table provides a general guideline for probable impacts due to number of bids:

1 bid	+20% to +50%
2-3 bids	+10% to +20%
4-5 bids	0% to +10%
6-7 bids	0% to -10%
8 or 10 bids	-10% to -20%

4.2 Working hours and phasing

The estimate is based on all work to be performed during regular working hours. No overtime or weekend hours are included.

The estimate is based on all work being done concurrently. The estimate summary includes a rough cost impact for phasing the work.

4.3 Allowances have been used for items which are required but are not able to be defined at this time.

4.4 The unit prices used in the direct cost section are composite unit prices which include costs for material including tax, labor, equipment and subcontractor's/supplier's mark-ups.

4.5 The following markups have been included at the estimate summary level

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- a) GC's General Conditions and General Requirements
  - b) Market factor
  - b) GC's OH&P
  - c) Bonding and Insurance
  - d) Design Development Estimating Contingencies due to the conceptual nature of the scope. This amount will be gradually reduced as design progresses and more detail can be captured within the direct costs
  - e) Cost Escalation, see escalation section for details
- 4.6 Items potentially affecting the cost estimate include, but are not limited to, the following:  
Modifications to the scope of work included in this estimate.  
Unforeseen sub-surface conditions.  
Special phasing requirements.  
Restrictive technical specifications or excessive contract conditions.  
Any specified item of equipment, material, or product that cannot be obtained from at least three different sources.  
Any other non-competitive bid situations.
- 4.7 Client acknowledges that our estimating service is consistent with and limited to the standard of care applicable to such services, i.e. we provide our services consistent with the professional skill and care ordinarily provided by consultants practicing in the same or similar locality under the same or similar circumstances. The estimate is intended to be a determination of fair market value for the project construction. Since we have no control over market conditions, costs of labor, materials, equipment and other factors, which may affect the bid prices, we cannot and do not warrant or guarantee that bids or ultimate construction costs will not vary from the cost estimate. We make no other warranties, either expressed or implied, and are not responsible for the interpretation by others of the contents herein the cost estimate.
- 4.8 It should also be noted that the cost estimate is a "snapshot in time" and that the reliability of this opinion of probable construction cost will inherently degrade over time.
- 4.9 Please note that the estimate has been based on very preliminary information and it only serves as a general guideline for more specific and detailed studies in the future. This estimate should be updated when more design or scope information is available.
- 5.0 Terminology**  
Please note that:
- 1) Direct Cost = Estimated construction cost at working contractor's level/trades level.
  - 2) Base Construction Cost = Estimated construction bid submitted by general contractor to Owner, including general contractor's markups and contingency

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**6.0 Abbreviations used in the estimate:**

CF = cubic foot  
CY = cubic yard  
(E) = existing  
EA = each  
GSA = Gross Square Area  
GSF = Gross Square Feet  
LB = pound  
LF = linear foot  
FLT = flight  
LOC = location  
LS = lump sum  
(N) = new  
NIC = not in contract  
OFCI = owner furnished contractor installed  
PR = pair  
ROM = rough order of magnitude  
SF = square foot

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1.1 ESCALATION CALCULATION**

**Date: 07/22/2022 Final**

**PHASE 1**

Date of Estimate Pricing	7/1/2022
Start construction	10/1/2025
End construction	10/1/2030
Duration, days	1826 Days
Duration, months	61 Months
Date of estimate pricing to start To Mid-point of construction period	1188 Days 2101 days 70 months
Mid-point of construction	4/1/2028

Annual escalation rate is estimated at 8% till 12/31/2023, and 4% thereafter to midpoint of construction

Total escalation **32.63%** to Summary

**PHASE 2**

Date of Estimate Pricing	7/1/2022
Start construction	10/1/2025
End construction	10/1/2030
Duration, days	1826 Days
Duration, months	61 Months
Date of estimate pricing to start To Mid-point of construction period	1188 Days 2101 days 70 months
Mid-point of construction	4/1/2028

Annual escalation rate is estimated at 8% till 12/31/2023, and 4% thereafter to

Total escalation **32.63%** to Summary

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1.1 ESCALATION CALCULATION**

**Date: 07/22/2022 Final**

**PHASE 3**

Date of Estimate Pricing	7/1/2022
Start construction	10/1/2025
End construction	10/1/2030
Duration, days	1826 Days
Duration, months	61 Months
Date of estimate pricing to start To Mid-point of construction period	1188 Days 2101 days 70 months
Mid-point of construction	4/1/2028
Annual escalation rate is estimated at 8% till 12/31/2023, and 4% thereafter to Total escalation	<b>32.63%</b> to Summary

**PHASE 4**

Date of Estimate Pricing	7/1/2022
Start construction	10/1/2025
End construction	10/1/2030
Duration, days	1826 Days
Duration, months	61 Months
Date of estimate pricing to start To Mid-point of construction period	1188 Days 2101 days 70 months
Mid-point of construction	4/1/2028
Annual escalation rate is estimated at 8% till 12/31/2023, and 4% thereafter to Total escalation	<b>32.63%</b> to Summary

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1.1 ESCALATION CALCULATION**

**Date: 07/22/2022 Final**

**PHASE 5**

Date of Estimate Pricing	7/1/2022
Start construction	10/1/2025
End construction	10/1/2030
Duration, days	1826 Days
Duration, months	61 Months
Date of estimate pricing to start	1188 Days
To Mid-point of construction period	2101 days 70 months
Mid-point of construction	4/1/2028

Annual escalation rate is estimated at 8% till 12/31/2023, and 4% thereafter to  
Total escalation **32.63%** to Summary

**EXTERIOR IMPROVEMENTS**

Date of Estimate Pricing	7/1/2022
Start construction	10/1/2025
End construction	10/1/2030
Duration, days	1826 Days
Duration, months	61 Months
Date of estimate pricing to start	1188 Days
To Mid-point of construction period	2101 days 70 months
Mid-point of construction	4/1/2028

Annual escalation rate is estimated at 8% till 12/31/2023, and 4% thereafter to  
Total escalation **32.63%** to Summary

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1.1 ESCALATION CALCULATION**

**Date: 07/22/2022 Final**

**WINDING MOTORS**

Date of Estimate Pricing	7/1/2022
Start construction	10/1/2025
End construction	10/1/2030
Duration, days	1826 Days
Duration, months	61 Months
Date of estimate pricing to start	1188 Days
To Mid-point of construction period	2101 days 70 months
Mid-point of construction	4/1/2028
Annual escalation rate is estimated at 8% till 12/31/2023, and 4% thereafter to	
Total escalation	<b>32.63%</b> to Summary

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 2.0 KEY QUANTITIES**

Date: 07/22/2022 Final

**Program Areas**

	<u>SF</u>	<u>Footprint</u>	<u>FI-FI</u>	<u>Perimeter</u>	<u>Exterior Enclosure</u>
<b>1.1 Phase 1A 12KV Switchgear Upgrade</b>					
1.2 Total	<u>846</u>				
1.3 Level 1		846	15	616	9,240
<b>2.1 Phase 1B: Bridge Crane Upgrade</b>					
2.2 Total	<u>4,434</u>				
2.3 Level 1 Mezzanine		2,539	15	616	9,240
2.4 Level 1		1,895	15	616	9,240
<b>3.1 Phase 2: Office Improvements</b>					
3.2 Total	<u>10,471</u>				
3.3 Level 2 Mezzanine		5,603	15	616	9,240
3.4 Level 2		962	15	616	9,240
3.5 Level 1 Mezzanine		579	15	616	9,240
3.6 Level 1		3,327	15	616	9,240
<b>4.1 Phase 3A: Program Restructuring</b>					
4.2 Total	<u>7,766</u>				
4.3 Level 2		700	15	616	9,240
4.4 Level 1 Mezzanine		1,462	15	616	9,240
4.5 Level 1		5,604	15	616	9,240
<b>5.1 Phase 3B: Carpentry Improvements</b>					
5.2 Total	<u>3,440</u>				
5.3 Level 2		3,440	15	616	9,240
<b>6.1 Phase 4: Roof Replacement</b>					
6.2 Total	<u>33,770</u>				
6.3 Roof		33,770	15	616	9,240

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Date: 07/22/2022 Final

	<u>SF</u>	<u>Footprint</u>	<u>FI-FI</u>	<u>Perimeter</u>	<u>Exterior Enclosure</u>
<b>7.1 Phase 5: Seismic Improvements</b>					
7.2 Total	<u>20,700</u>				
7.3 5.2.1		700	15	616	9,240
7.4 5.2.2		5,000	15	616	9,240
7.5 5.2.3		5,000	15	616	9,240
7.6 5.2.4		5,000	15	616	9,240
7.7 5.2.5		5,000	15	616	9,240
<b>8.1 Exterior Improvements</b>	<u>SF</u>				
8.2 Brick masonry exterior wall	15,579				
8.3 Exterior windows	3,350				
8.4 Exterior clerestory windows	510				
<b>9.1 Winding Motors</b>	<u>SF</u>				
Winding motors	600				

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3.0 BASE CONSTRUCTION COST ESTIMATE SUMMARY**

Date: 07/22/2022 Final

ELEMENT / LOCATION	CONCURRENT		PHASED		CONCURRENT		PHASED	
	BASE CONSTRUCTION COST	CONSTRUCTION COST, ESCALATED TO MID POINT \$	BASE CONSTRUCTION COST	CONSTRUCTION COST, ESCALATED TO MID POINT \$	GSF	\$/GSF Escalated to Midpt	GSF	\$/GSF Escalated to Midpt
<b>ESTIMATE SUMMARY:</b>								
1 3.1 PHASE 1A: 12KV SWITCHGEAR UPGRADE	\$5,197,046	\$6,893,049	\$5,716,750	\$7,582,354	846	\$8,148		\$8,963
2 3.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE	\$5,958,724	\$7,903,292	\$6,554,596	\$8,693,621	4,434	\$1,782		\$1,961
3 3.3 PHASE 2: OFFICE IMPROVEMENTS	\$14,945,861	\$19,823,289	\$16,440,447	\$21,805,618	10,471	\$1,893		\$2,082
4 3.4 PHASE 3A: PROGRAMMING RESTRUCTURING	\$7,341,126	\$9,736,827	\$8,075,238	\$10,710,509	7,766	\$1,254		\$1,379
5 3.5 PHASE 3B: CARPENTRY UPGRADES	\$4,737,994	\$6,284,190	\$5,211,793	\$6,912,609	3,440	\$1,827		\$2,009
7 3.6 PHASE 4: ROOF REPLACEMENT	\$7,803,323	\$10,349,857	\$8,583,655	\$11,384,842	33,770	\$306		\$337
8 3.7 PHASE 5: SEISMIC IMPROVEMENTS	\$12,136,957	\$13,429,514	\$13,350,653	\$14,772,466	20,700	\$649		\$714
9 3.8 EXTERIOR IMPROVEMENTS	\$8,435,058	\$11,187,753	\$9,278,564	\$12,306,529	15,579	\$718		\$790
10 3.9 WINDING MOTORS	\$3,200,050	\$4,244,354	\$3,520,056	\$4,668,790	600	\$7,074		\$7,781
<b>1-10 TOTAL ESTIMATED BASE CONSTRUCTION COST</b>	<b>\$69,756,139</b>	<b>\$89,852,125</b>	<b>\$76,731,752</b>	<b>\$98,837,338</b>				
<b>TOTAL ESTIMATED BASE CONSTRUCTION COST</b>	<b>\$69,756,000</b>	<b>\$89,852,000</b>	<b>\$76,732,000</b>	<b>\$98,837,000</b>				

**Notes:**

- 1) Excludes softcost
- 2) Excludes O&M costs
- 3) For a complete scope of the estimate including assumptions & qualifications, it is important to read the attached "Basis of Estimate" and "Estimate Details"
- 4) Note that both concurrent and phased construction options are currently assuming the same construction schedule. This should be confirmed and verified.

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 3.1 PHASE 1A: 12KV SWITCHGEAR UPGRADE**

Date: 07/22/2022 Final  
 846 GSF

Ref.	Section		Total Cost	\$/GSF	%	Comments
<b>A10</b>	<b>SUBSTRUCTURE</b>					
A1010	TRADE DEMOLITION		13,590	16.06	0.20	
	<b>SUBSTRUCTURE</b>		13,590	16.06	0.20	
<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>					
C1010	PARTITIONS		55,205	65.25	0.80	
C1020	INTERIOR DOORS		40,500	47.87	0.59	
	<b>INTERIOR CONSTRUCTION</b>		95,705	113.13	1.39	
<b>C30</b>	<b>INTERIOR FINISHES</b>					
C3010	WALL FINISHES		10,007	11.83	0.15	
C3020	FLOOR FINISHES		8,460	10.00	0.12	
C3030	CEILING FINISHES		21,150	25.00	0.31	
	<b>INTERIOR FINISHES</b>		39,617	46.83	0.57	
<b>D15</b>	<b>MECHANICAL</b>					
D1520	PLUMBING		8,272	9.78	0.12	
D1530	HVAC			0.00	0.00	
D1540	FIRE PROTECTION		293,800	347.28	4.26	
	<b>MECHANICAL</b>		302,072	357.06	4.38	
<b>D50</b>	<b>ELECTRICAL</b>					
D5010	ELECTRICAL DISTRIBUTION		2,342,725	2769.18	33.99	
D5030	COMMUNICATION & SECURITY		20,304	24.00	0.29	
	<b>ELECTRICAL</b>		2,363,029	2793.18	34.28	
	<b>TOTAL DIRECT COSTS</b>		2,814,013	3326.26	40.82	
	<b>ADD MARKUPS (CUMULATIVE)</b>					
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	562,803	665.25	8.16	
	MARKET FACTOR	5.0%	168,841	199.58	2.45	
	OVERHEAD AND PROFIT	10.0%	354,566	419.11	5.14	
	BONDING AND INSURANCE	2.5%	97,506	115.25	1.41	
	DESIGN CONTINGENCY	30.0%	1,199,318	1417.63	17.40	
	BASE CONSTRUCTION COST (Unescalated)		5,197,046	6143.08	75.40	
	ESCALATION - PHASE 1	32.6%	1,696,003	2004.73	24.60	
	BASE CONSTRUCTION COST (Escalated)		6,893,049	8147.81	100.00	
	<b>CONSTRUCTION COST (Escalated)</b>		<b>6,893,049</b>	<b>8147.81</b>	<b>100.00</b>	

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3.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE**

**Date: 07/22/2022 Final  
4,434 GSF**

Ref.	Section		Total Cost	\$/GSF	%	Comments
<b>A10</b>	<b>SUBSTRUCTURE</b>					
A1010	FOUNDATIONS		201,390	45.42	2.55	
	<b>SUBSTRUCTURE</b>		201,390	45.42	2.55	
<b>B10</b>	<b>SUPERSTRUCTURE</b>					
B1010	FLOOR CONSTRUCTION		1,383,158	311.94	17.50	
	<b>SUPERSTRUCTURE</b>		1,383,158	311.94	17.50	
<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>					
C1010	PARTITIONS		218,518	49.28	2.76	
C1020	INTERIOR DOORS		71,750	16.18	0.91	
C1030	SPECIALTIES		102,476	23.11	1.30	
	<b>INTERIOR CONSTRUCTION</b>		392,744	88.58	4.97	
<b>C30</b>	<b>INTERIOR FINISHES</b>					
C3010	WALL FINISHES		34,241	7.72	0.43	
C3020	FLOOR FINISHES		38,085	8.59	0.48	
C3030	CEILING FINISHES		50,780	11.45	0.64	
	<b>INTERIOR FINISHES</b>		123,106	27.76	1.56	
<b>D15</b>	<b>MECHANICAL</b>					
D1530	HVAC		295,615	66.67	3.74	
D1540	FIRE PROTECTION		53,208	12.00	0.67	
	<b>MECHANICAL</b>		348,823	78.67	4.41	
<b>D50</b>	<b>ELECTRICAL</b>					
D5010	ELECTRICAL DISTRIBUTION		229,000	51.65	2.90	
D5020	LIGHTING & BRANCH WIRING		133,020	30.00	1.68	
D5030	COMMUNICATION & SECURITY		106,416	24.00	1.35	
D5040	AUDIO VISUAL SYSTEM		22,170	5.00	0.28	
	<b>ELECTRICAL</b>		490,606	110.65	6.21	
<b>E10</b>	<b>EQUIPMENT</b>					
E1059	OTHER EQUIPMENT		275,390	62.11	3.48	
	<b>EQUIPMENT</b>		275,390	62.11	3.48	
<b>E20</b>	<b>FURNISHINGS</b>					
E2010	CASEWORK		11,217	2.53	0.14	
	<b>FURNISHINGS</b>		11,217	2.53	0.14	
	<b>TOTAL DIRECT COSTS</b>		3,226,434	727.66	40.82	
	<b>ADD MARKUPS (CUMULATIVE)</b>					
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	645,287	145.53	8.16	
	MARKET FACTOR	5.0%	193,586	43.66	2.45	
	OVERHEAD AND PROFIT	10.0%	406,531	91.68	5.14	
	BONDING AND INSURANCE	2.5%	111,796	25.21	1.41	
	DESIGN CONTINGENCY	30.0%	1,375,090	310.12	17.40	
	BASE CONSTRUCTION COST (Unescalated)		5,958,724	1343.87	75.40	
	ESCALATION - PHASE 1	32.6%	1,944,568	438.56	24.60	
	BASE CONSTRUCTION COST (Escalated)		7,903,292	1782.43	100.00	
	<b>CONSTRUCTION COST (Escalated)</b>		<b>7,903,292</b>	<b>1782.43</b>	<b>100.00</b>	

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 3.3 PHASE 2: OFFICE IMPROVEMENTS**

**Date: 07/22/2022 Final  
 10,471 GSF**

Ref.	Section		Total Cost	\$/GSF	%	Comments
<b>A10</b>	<b>SUBSTRUCTURE</b>					
A1010	TRADE DEMOLITION		157,065	15.00	0.79	
	<b>SUBSTRUCTURE</b>		157,065	15.00	0.79	
<b>B10</b>	<b>SUPERSTRUCTURE</b>					
B1010	FLOOR CONSTRUCTION		193,800	18.51	0.98	
	<b>SUPERSTRUCTURE</b>		193,800	18.51	0.98	
<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>					
C1010	PARTITIONS		1,340,143	127.99	6.76	
C1020	INTERIOR DOORS		259,750	24.81	1.31	
C1030	SPECIALTIES		325,931	31.13	1.64	
	<b>INTERIOR CONSTRUCTION</b>		1,925,824	183.92	9.71	
<b>C30</b>	<b>INTERIOR FINISHES</b>					
C3010	WALL FINISHES		137,074	13.09	0.69	
C3020	FLOOR FINISHES		157,065	15.00	0.79	
C3030	CEILING FINISHES		209,420	20.00	1.06	
	<b>INTERIOR FINISHES</b>		503,559	48.09	2.54	
<b>D10</b>	<b>CONVEYING SYSTEMS</b>					
D1010	ELEVATORS & LIFTS		315,000	30.08	1.59	
	<b>CONVEYING SYSTEMS</b>		315,000	30.08	1.59	
<b>D15</b>	<b>MECHANICAL</b>					
D1520	PLUMBING		1,773,689	169.39	8.95	
D1530	HVAC		1,155,266	110.33	5.83	
D1540	FIRE PROTECTION		271,552	25.93	1.37	
	<b>MECHANICAL</b>		3,200,507	305.65	16.15	
<b>D50</b>	<b>ELECTRICAL</b>					
D5010	ELECTRICAL DISTRIBUTION		762,845	72.85	3.85	
D5020	LIGHTING & BRANCH WIRING		366,485	35.00	1.85	
D5030	COMMUNICATION & SECURITY		439,782	42.00	2.22	
D5040	AUDIO VISUAL SYSTEM		52,355	5.00	0.26	
	<b>ELECTRICAL</b>		1,621,467	154.85	8.18	
<b>E10</b>	<b>EQUIPMENT</b>					
E1059	OTHER EQUIPMENT		118,210	11.29	0.60	
	<b>EQUIPMENT</b>		118,210	11.29	0.60	
<b>E20</b>	<b>FURNISHINGS</b>					
E2010	CASEWORK		57,213	5.46	0.29	
	<b>FURNISHINGS</b>		57,213	5.46	0.29	
	<b>TOTAL DIRECT COSTS</b>		8,092,645	772.86	40.82	
	<b>ADD MARKUPS (CUMULATIVE)</b>					
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	1,618,529	154.57	8.16	
	MARKET FACTOR	5.0%	485,559	46.37	2.45	
	OVERHEAD AND PROFIT	10.0%	1,019,673	97.38	5.14	
	BONDING AND INSURANCE	2.5%	280,410	26.78	1.41	
	DESIGN CONTINGENCY	30.0%	3,449,045	329.39	17.40	
	BASE CONSTRUCTION COST (Unescalated)		14,945,861	1427.36	75.40	
	ESCALATION - PHASE 2	32.6%	4,877,428	465.80	24.60	
	BASE CONSTRUCTION COST (Escalated)		19,823,289	1893.16	100.00	
	<b>CONSTRUCTION COST (Escalated)</b>		<b>19,823,289</b>	<b>1893.16</b>	<b>100.00</b>	

**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
(AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
BASED ON FINAL MASTERPLAN DOCUMENTS  
3.4 PHASE 3A: PROGRAMMING RESTRUCTURING**

Date: 07/22/2022 Final  
7,766 GSF

Ref.	Section		Total Cost	\$/GSF	%	Comments
<b>A10</b>	<b>SUBSTRUCTURE</b>					
A1010	DEMOLITION		101,488	13.07	1.04	
	<b>SUBSTRUCTURE</b>		<b>101,488</b>	<b>13.07</b>	<b>1.04</b>	
<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>					
C1010	PARTITIONS		111,935	14.41	1.15	
C1020	INTERIOR DOORS		62,100	8.00	0.64	
C1030	SPECIALTIES		40,596	5.23	0.42	
	<b>INTERIOR CONSTRUCTION</b>		<b>214,631</b>	<b>27.64</b>	<b>2.20</b>	
<b>C30</b>	<b>INTERIOR FINISHES</b>					
C3010	WALL FINISHES		21,308	2.74	0.22	
C3020	FLOOR FINISHES		116,490	15.00	1.20	
C3030	CEILING FINISHES		155,320	20.00	1.60	
	<b>INTERIOR FINISHES</b>		<b>293,118</b>	<b>37.74</b>	<b>3.01</b>	
<b>D15</b>	<b>MECHANICAL</b>					
D1520	PLUMBING		757,390	97.53	7.78	
D1530	HVAC		847,659	109.15	8.71	
D1540	FIRE PROTECTION		93,192	12.00	0.96	
	<b>MECHANICAL</b>		<b>1,698,241</b>	<b>218.68</b>	<b>17.44</b>	
<b>D50</b>	<b>ELECTRICAL</b>					
D5010	ELECTRICAL DISTRIBUTION		907,936	116.91	9.32	
D5020	LIGHTING & BRANCH WIRING		232,980	30.00	2.39	
D5030	COMMUNICATION & SECURITY		186,384	24.00	1.91	
D5040	AUDIO VISUAL SYSTEM		38,830	5.00	0.40	
	<b>ELECTRICAL</b>		<b>1,366,130</b>	<b>175.91</b>	<b>14.03</b>	
<b>E10</b>	<b>EQUIPMENT</b>					
E1059	OTHER EQUIPMENT		263,190	33.89	2.70	
	<b>EQUIPMENT</b>		<b>263,190</b>	<b>33.89</b>	<b>2.70</b>	
<b>E20</b>	<b>FURNISHINGS</b>					
E2010	CASEWORK		38,157	4.91	0.39	
	<b>FURNISHINGS</b>		<b>38,157</b>	<b>4.91</b>	<b>0.39</b>	
	<b>TOTAL DIRECT COSTS</b>		<b>3,974,955</b>	<b>511.84</b>	<b>40.82</b>	
	<b>ADD MARKUPS (CUMULATIVE)</b>					
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	794,991	102.37	8.16	
	MARKET FACTOR	5.0%	238,497	30.71	2.45	
	OVERHEAD AND PROFIT	10.0%	500,844	64.49	5.14	
	BONDING AND INSURANCE	2.5%	137,732	17.74	1.41	
	DESIGN CONTINGENCY	30.0%	1,694,106	218.14	17.40	
	BASE CONSTRUCTION COST (Unescalated)		7,341,126	945.29	75.40	
	ESCALATION - PHASE 3	32.6%	2,395,701	308.49	24.60	
	BASE CONSTRUCTION COST (Escalated)		9,736,827	1253.78	100.00	
	<b>CONSTRUCTION COST (Escalated)</b>		<b>9,736,827</b>	<b>1253.78</b>	<b>100.00</b>	

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 3.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final  
 3,440 GSF

Ref.	Section		Total Cost	\$/GSF	%	Comments
<b>A10</b>	<b>SUBSTRUCTURE</b>					
A1010	DEMOLITION		43,000	12.50	0.68	
	<b>SUBSTRUCTURE</b>		<b>43,000</b>	<b>12.50</b>	<b>0.68</b>	
<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>					
C1010	PARTITIONS		113,935	33.12	1.81	
C1020	INTERIOR DOORS		32,450	9.43	0.52	
C1030	SPECIALTIES		137,200	39.88	2.18	
	<b>INTERIOR CONSTRUCTION</b>		<b>283,585</b>	<b>82.44</b>	<b>4.51</b>	
<b>C30</b>	<b>INTERIOR FINISHES</b>					
C3010	WALL FINISHES		21,840	6.35	0.35	
C3020	FLOOR FINISHES		51,600	15.00	0.82	
C3030	CEILING FINISHES		68,800	20.00	1.09	
	<b>INTERIOR FINISHES</b>		<b>142,240</b>	<b>41.35</b>	<b>2.26</b>	
<b>D15</b>	<b>MECHANICAL</b>					
D1520	PLUMBING		327,969	95.34	5.22	
D1530	HVAC		529,726	153.99	8.43	
D1540	FIRE PROTECTION		61,920	18.00	0.99	
	<b>MECHANICAL</b>		<b>919,615</b>	<b>267.33</b>	<b>14.63</b>	
<b>D50</b>	<b>ELECTRICAL</b>					
D5010	ELECTRICAL DISTRIBUTION		702,006	204.07	11.17	
D5020	LIGHTING & BRANCH WIRING		103,200	30.00	1.64	
D5030	COMMUNICATION & SECURITY		82,560	24.00	1.31	
D5040	AUDIO VISUAL SYSTEM		17,200	5.00	0.27	
	<b>ELECTRICAL</b>		<b>904,966</b>	<b>263.07</b>	<b>14.40</b>	
<b>E10</b>	<b>EQUIPMENT</b>					
E1059	OTHER EQUIPMENT		261,727	76.08	4.16	
	<b>EQUIPMENT</b>		<b>261,727</b>	<b>76.08</b>	<b>4.16</b>	
<b>E20</b>	<b>FURNISHINGS</b>					
E2010	CASEWORK		10,320	3.00	0.16	
	<b>FURNISHINGS</b>		<b>10,320</b>	<b>3.00</b>	<b>0.16</b>	
	<b>TOTAL DIRECT COSTS</b>		<b>2,565,453</b>	<b>745.77</b>	<b>40.82</b>	
	<b>ADD MARKUPS (CUMULATIVE)</b>					
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	513,091	149.15	8.16	
	MARKET FACTOR	5.0%	153,927	44.75	2.45	
	OVERHEAD AND PROFIT	10.0%	323,247	93.97	5.14	
	BONDING AND INSURANCE	2.5%	88,893	25.84	1.41	
	DESIGN CONTINGENCY	30.0%	1,093,383	317.84	17.40	
	BASE CONSTRUCTION COST (Unescalated)		4,737,994	1377.32	75.40	
	ESCALATION - SEE GRAND SUMMARY	32.6%	1,546,196	449.48	24.60	
	BASE CONSTRUCTION COST (Escalated)		6,284,190	1826.80	100.00	
	<b>CONSTRUCTION COST (Escalated)</b>		<b>6,284,190</b>	<b>1826.80</b>	<b>100.00</b>	

<b>SAN FRANCISCO CABLE CAR BARN</b> <b>ROM ESTIMATE OF PROBABLE CONSTRUCTION COST</b> <b>(AN OPINION OF PROBABLE CONSTRUCTION COSTS)</b> <b>BASED ON FINAL MASTERPLAN DOCUMENTS</b> <b>3.6 PHASE 4: ROOF REPLACEMENT</b>						
						<b>Date: 07/22/2022 Final</b> <b>33,770 GSF</b>
Ref.	Section		Total Cost	\$/GSF	%	Comments
<b>A10</b>	<b>SUBSTRUCTURE</b>					
A1010	TRADE DEMOLITION		296,610	8.78	2.87	
	<b>SUBSTRUCTURE</b>		296,610	8.78	2.87	
				0.00	0.00	0.00
<b>B10</b>	<b>SUPERSTRUCTURE</b>					
B1020	ROOF CONSTRUCTION		1,334,745	39.52	12.90	
	<b>SUPERSTRUCTURE</b>		1,334,745	39.52	12.90	
<b>B30</b>	<b>ROOFING</b>					
B3010	ROOF COVERINGS		2,313,558	68.51	22.35	
B3020	ROOF OPENINGS		132,000	3.91	1.28	
	<b>ROOFING</b>		2,445,558	72.42	23.63	
<b>D15</b>	<b>MECHANICAL</b>					
D1520	PLUMBING		148,305	4.39	1.43	
	<b>MECHANICAL</b>		148,305	4.39	1.43	
	<b>TOTAL DIRECT COSTS</b>		4,225,218	125.12	40.82	
	<b>ADD MARKUPS (CUMULATIVE)</b>					
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	845,044	25.02	8.16	
	MARKET FACTOR	5.0%	253,513	7.51	2.45	
	OVERHEAD AND PROFIT	10.0%	532,377	15.76	5.14	
	BONDING AND INSURANCE	2.5%	146,404	4.34	1.41	
	DESIGN CONTINGENCY	30.0%	1,800,767	53.32	17.40	
	BASE CONSTRUCTION COST (Unescalated)		7,803,323	231.07	75.40	
	ESCALATION - PHASE 4	32.6%	2,546,534	75.41	24.60	
	<b>BASE CONSTRUCTION COST (Escalated)</b>		<b>10,349,857</b>	<b>306.48</b>	<b>100.00</b>	
	<b>CONSTRUCTION COST (Escalated)</b>		<b>10,349,857</b>	<b>306.48</b>	<b>100.00</b>	

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 3.7 PHASE 5: SEISMIC IMPROVEMENTS**

Date: 07/22/2022 Final  
 20,700 GSF

Ref.	Section	Total Cost	\$/GSF	%	Comments
5.2.1	<b>CHIMNEY SEPERATION</b>				
	DIRECT COST	354,500	17.13		
	TOTAL COST W/MARKUPS	654,707	31.63		
	TOTAL COST W/ESCALATION	724,431	35.00		
	<b>CHIMNEY SEPERATION</b>	724,431	35.00		
5.2.2A	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET SHOTCRETE/DOWELS</b>				Option A: For South/East Walls
	DIRECT COST	1,955,225	94.46		
	TOTAL COST W/MARKUPS	3,610,998	174.44		
	TOTAL COST W/ESCALATION	3,995,560	193.02		
	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET</b>	3,995,560	193.02		
5.2.3	<b>CONCRETE MASONRY UNIT WALL AT GRID LINE G</b>				
	DIRECT COST	1,695,000	81.88		
	TOTAL COST W/MARKUPS	3,130,402	151.23		
	TOTAL COST W/ESCALATION	3,463,783	167.33		
	<b>CONCRETE MASONRY UNIT WALL AT GRID LINE G</b>	3,463,783	167.33		
5.2.4	<b>ADDING NEW SEISMIC FORCE AT GRID LINES E</b>				
	DIRECT COST	1,152,500	55.68		
	TOTAL COST W/MARKUPS	2,128,489	102.83		
	TOTAL COST W/ESCALATION	2,355,168	113.78		
	<b>ADDING NEW SEISMIC FORCE AT GRID LINES E</b>	2,355,168	113.78		
5.2.5	<b>MAIN ROOF DIAPHRAGM</b>				
	DIRECT COST	1,012,000	48.89		
	TOTAL COST W/MARKUPS	1,869,007	90.29		
	TOTAL COST W/ESCALATION	2,068,052	99.91		
	<b>MAIN ROOF DIAPHRAGM</b>	2,068,052	99.91		
5.2.6	<b>OTHER ADDED ELEMENTS FOR SEISIMC FORCE</b>				
	DIRECT COST	402,500	19.44		
	TOTAL COST W/MARKUPS	743,355	35.91		
	TOTAL COST W/ESCALATION	822,521	39.74		
	<b>OTHER ADDED ELEMENTS FOR SEISIMC FORCE</b>	822,521	39.74		
	<b>TOTAL COSTS w/Option A and w/ Escalation</b>	13,429,514	648.77		Cost Excludes Option B: Fibre Wrap

**Alternate Cost Option**

5.2.2B	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET FIBRE WRAP</b>				Option B: Alternate cost to Shotcrete/Dowels
	DIRECT COST	3,540,800	171.05		
	TOTAL COST W/MARKUPS	6,539,309	315.91		
	TOTAL COST W/ESCALATION	7,235,730	349.55		
	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET</b>	7,235,730	349.55		

<b>SAN FRANCISCO CABLE CAR BARN</b> <b>ROM ESTIMATE OF PROBABLE CONSTRUCTION COST</b> <b>(AN OPINION OF PROBABLE CONSTRUCTION COSTS)</b> <b>BASED ON FINAL MASTERPLAN DOCUMENTS</b> <b>3.8 EXTERIOR IMPROVEMENTS</b>						<b>Date: 07/22/2022 Final</b> <b>15,579 GSF</b>	
Ref.	Section		Total Cost	\$/GSF	%	Comments	
<b>ESTIMATE SUMMARY:</b>							
<b>B20</b>	<b>EXTERIOR CLOSURE</b>						
B2010	EXTERIOR WALLS		1,988,280	127.63	17.77		
B2020	EXTERIOR WINDOWS		1,274,500	81.81	11.39		
B2030	EXTERIOR DOORS		250,000	16.05	2.23		
<b>EXTERIOR CLOSURE</b>			<b>3,512,780</b>	<b>225.48</b>	<b>31.40</b>		
<b>B30</b>	<b>ROOFING</b>						
B3010	ROOF COVERINGS			0.00	0.00		
B3020	ROOF OPENINGS		1,054,500	67.69	9.43		
<b>ROOFING</b>			<b>1,054,500</b>	<b>67.69</b>	<b>9.43</b>		
<b>TOTAL DIRECT COSTS</b>			<b>4,567,280</b>	<b>293.17</b>	<b>40.82</b>		
<b>ADD MARKUPS (CUMULATIVE)</b>							
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	913,456	58.63	8.16		
	MARKET FACTOR	5.0%	274,037	17.59	2.45		
	OVERHEAD AND PROFIT	10.0%	575,477	36.94	5.14		
	BONDING AND INSURANCE	2.5%	158,256	10.16	1.41		
	DESIGN CONTINGENCY	30.0%	1,946,552	124.95	17.40		
	BASE CONSTRUCTION COST (Unescalated)		8,435,058	541.44	75.40		
	ESCALATION - PHASE 1	32.6%	2,752,695	176.69	24.60		
	BASE CONSTRUCTION COST (Escalated)		11,187,753	718.13	100.00		
<b>CONSTRUCTION COST (Escalated)</b>			<b>11,187,753</b>	<b>718.13</b>	<b>100.00</b>		

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 3.9 WINDING MOTORS**

Date: 07/22/2022 Final  
 846 GSF

Ref.	Section		Total Cost	\$/GSF	%	Comments
D50	<b>ELECTRICAL</b>					
D5010	ELECTRICAL DISTRIBUTION		1,732,712	2048.12	40.82	
D5030	COMMUNICATION & SECURITY			0.00	0.00	
	<b>ELECTRICAL</b>		1,732,712	2048.12	40.82	
	<b>TOTAL DIRECT COSTS</b>		1,732,712	2048.12	40.82	
	<b>ADD MARKUPS (CUMULATIVE)</b>					
	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	346,542	409.62	8.16	
	MARKET FACTOR	5.0%	103,963	122.89	2.45	
	OVERHEAD AND PROFIT	10.0%	218,322	258.06	5.14	
	BONDING AND INSURANCE	2.5%	60,038	70.97	1.41	
	DESIGN CONTINGENCY	30.0%	738,473	872.90	17.40	
	BASE CONSTRUCTION COST (Unescalated)		3,200,050	3782.57	75.40	
	ESCALATION - PHASE 1	32.6%	1,044,304	1234.40	24.60	
	BASE CONSTRUCTION COST (Escalated)		4,244,354	5016.97	100.00	
	<b>CONSTRUCTION COST (Escalated)</b>		<b>4,244,354</b>	<b>5016.97</b>	<b>100.00</b>	

**SAN FRANCISCO CABLE CAR BARN**  
**ROM ESTIMATE OF PROBABLE CONSTRUCTION COST**  
**(AN OPINION OF PROBABLE CONSTRUCTION COSTS)**  
**BASED ON FINAL MASTERPLAN DOCUMENTS**  
**4.1 PHASE 1A: 12KV SWITCHGEAR UPGRADE**

Date: 07/22/2022 Final

Floor Area: 846 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
A1010	1	<b>TRADE DEMOLITION</b>				
	2					
	3	Remove existing metal shelving	20	LF	45.00	900
	4	Clear area as required for new work - allow	846	SF	15.00	12,690
	5					
	6	<b>TRADE DEMOLITION</b>				13,590
	7					
C1010	92					
	93	<b>PARTITIONS</b>				
	94					
	95	New fire-rated metal stud partition framing	915	SF	25.00	22,875
	96	Insulation at new interior partition	915	SF	5.00	4,575
	97	Gypsum board partition sheathing, taped and sanded	1,830	SF	7.50	13,725
	98	Gypsum board underlayment	1,830	SF	7.00	12,810
	99	Acoustic sealant	244	LF	5.00	1,220
	100					
	101	<b>PARTITIONS</b>				55,205
102						
C1020	103					
	104	<b>INTERIOR DOORS</b>				
	106	Hollow metal door in hollow metal frame with hardware, 90-minute fire rated, 6'-6" x 7'-0" pair	2	PR	8,000.00	16,000
	107	Overhead coiling door, 90-minute fire rated, 16'-0" x 9'-0"	1	EA	18,000.00	18,000
	108	Specialty hardware (panic, etc.) - allow	1	LS	2,500.00	2,500
	109	Card readers, etc. - allow	1	EA	4,000.00	4,000
	110					
111	<b>INTERIOR DOORS</b>				40,500	
112						
C3010	119					
	120	<b>WALL FINISHES</b>				
	121	Paint to walls	2,859	SF	3.50	10,007
	122					
	123	<b>WALL FINISHES</b>				10,007
124						
125						

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.1 PHASE 1A: 12KV SWITCHGEAR UPGRADE**

Date: 07/22/2022 Final

Floor Area: 846 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
<b>C3020</b>	126	<b>FLOOR FINISHES</b>				
	127	Sealer to existing concrete flooring	846	SF	10.00	8,460
	128					
	129	<b>FLOOR FINISHES</b>				8,460
	130					
<b>C3030</b>	131					
	132	<b>CEILING FINISHES</b>				
	133	New fire-rated gypsum board ceiling, painted	846	SF	25.00	21,150
	134					
	135					
	136	<b>CEILING FINISHES</b>				21,150
	137					
<b>D1010</b>	138					
	139	<b>ELEVATORS &amp; LIFTS</b>				
	140					
	141	See Phase 2				
	142					
	143	<b>ELEVATORS &amp; LIFTS</b>				
	144					
<b>D1520</b>	145					
	158	<b>PLUMBING</b>				
	159					
	160	Industrial Fixtures				
	161	Eyewash, complete with in-line tepid water heater	1	EA	6,600.00	6,600
	162					
	163	Testing and sterilization				
	164	Testing and sterilization	2	HR	205.00	410
165						
166	Miscellaneous Plumbing					
167	Project requirements, project management, detailing, coordination, etc	1	LS	1,261.80	1,262	
168						
169	<b>PLUMBING</b>				8,272	
170						
171						

**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
(AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
BASED ON FINAL MASTERPLAN DOCUMENTS  
4.1 PHASE 1A: 12KV SWITCHGEAR UPGRADE**

Date: 07/22/2022 Final

Floor Area: 846 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
D1540	178	<b>FIRE PROTECTION</b>				
	179					
	180	FM200 and control panel	846	SF	300.00	253,800
	181	Preaction double interlock system	1	LS	40,000.00	40,000
	182					
	183	<b>FIRE PROTECTION</b>				293,800
	184					
D5010	185					
	186	<b>ELECTRICAL DISTRIBUTION</b>				
	187					
	188	Main normal power				
	189	PG&E Metering				By PG&E
	190	12KV Vault	2	EA	18,000.00	36,000
	191	12KV-480V Electrical substation, 2,500KVA				
		Quote Leadtime, 8-10 week drawings/Shipments	1	LS	1,374,760.00	1,374,760
		54-60 weeks				
		Sales tax	8.63%	%	1,374,760.00	118,573
		Markups	15.00%	%	118,573.00	17,786
		Installation	160	HR	205.00	32,800
	197	12KV Feeders	100	LF	1,500.00	150,000
	198	Power monitoring	1	LS	25,000.00	25,000
	199	Grounding	846	SF	0.50	423
	200					
	201	Machine and equipment power				
202	Winding Motors				AC/DC Later phase	
203	Isolation transformers				AC/DC Later phase	
204	Miscellaneous power connections	846	SF	1.50	1,269	
205						
206	User convenience power					
207	Receptacles				Existing	
208						
209	Trade demolition					
210	Remove existing electrical substation	960	HR	205.00	196,800	
211	Temporary power	1	WK	15,000.00	15,000	
212						
213	Miscellaneous electrical					
214	Arc Flash Study	1	LS	20,000.00	20,000	

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.1 PHASE 1A: 12KV SWITCHGEAR UPGRADE**

Date: 07/22/2022 Final

Floor Area: 846 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	215	Project requirements, project management, detailing, coordination, etc	1	LS	354,313.98	354,314
	216					
	217	<b>ELECTRICAL DISTRIBUTION</b>				2,342,725
	218					
<b>D5020</b>	219					
	220	<b>LIGHTING &amp; BRANCH WIRING</b>				
	221					
	222	Lighting				Existing
	223					
	224	<b>LIGHTING &amp; BRANCH WIRING</b>				
	225					
<b>D5030</b>	226					
	227	<b>COMMUNICATION &amp; SECURITY</b>				
	228					
	229	Telecommunications, including CAT6A cabling, conduit and outlets and WAPs				Not Required
	230	Fire alarm system, including new fire alarm panel and annunciator, fire alarm devices, conduit and cable	846	SF	18.00	15,228
	231	Security system, including access control, video surveillance monitoring, conduit and cable	846	SF	6.00	5,076
	232					
	233	<b>COMMUNICATION &amp; SECURITY</b>				20,304
	234					

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE**

Date: 07/22/2022 Final

Floor Area: 4,434 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
A1010	1	<b>TRADE DEMOLITION</b>				
	2					
	3	Decommission existing 10-ton crane	1	LS	150,000.00	150,000
	4	Remove existing Stair #6 in its entirety	1	LS	7,500.00	7,500
	5	Miscellaneous selective demolition for new crane - allow	2,494	SF	10.00	24,940
	6	Miscellaneous selective demolition for new office addition - allow	1,895	SF	10.00	18,950
	7					
	8	<b>TRADE DEMOLITION</b>				201,390
B1010	34					
	35	<b>FLOOR CONSTRUCTION</b>				
	36					
	37	Bridge crane support min including new 8" x 18" pilasters - allow	75	TN	10,000.00	750,000
	38	Structural steel at 1M for Office Addition - allow 20#/SF	25	TN	10,000.00	250,000
	39	Metal deck at 1M Office Addition	2,539	SF	15.00	38,085
	40	Reinforced concrete fill at metal deck	2,539	SF	12.50	31,738
	41	Connection to existing structure - allow	238	LF	350.00	83,300
	42	New metal stair with associated guardrail and handrails (Stair #6)	1	FLT	65,000.00	65,000
	43					
	44	Miscellaneous				
	45	Intumescent fire proofing paint to steel - allow	2,539	SF	50.00	126,950
46	Miscellaneous metals and rough carpentry - allow	2,539	SF	15.00	38,085	
47						
48	<b>FLOOR CONSTRUCTION</b>				1,383,158	
49						
C1010	86					
	87	<b>PARTITIONS</b>				
	88					
	89	New metal stud partition framing	3,167	SF	22.50	71,258
	90	Insulation at new interior partition	3,167	SF	5.00	15,835
91	Gypsum board partition sheathing, taped and sanded	6,334	SF	7.50	47,505	
92	Patch and repair existing wall surrounding build-out - allow	2,300	SF	2.50	5,750	

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 4.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE**

Date: 07/22/2022 Final

Floor Area: 4,434 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	93	Acoustic sealant	844	LF	5.00	4,220
	94	Interior glazing	493	SF	150.00	73,950
	95					
	96	<b>PARTITIONS</b>				218,518
	97					
<b>C1020</b>	98					
	99	<b>INTERIOR DOORS</b>				
	100					
	101	Hollow metal door in hollow metal frame with hardware, 3'-0" x 7'-0" single	6	EA	3,500.00	21,000
	102	Hollow metal door in hollow metal frame with hardware and half glass, 3'-0" x 7'-0" single	1	EA	4,250.00	4,250
	103	Aluminum glazed entry door, 3'-0" x 7'-1-1/4" single	3	EA	5,500.00	16,500
	104	Specialty hardware (panic, etc.) - allow	1	LS	15,000.00	15,000
	105	Card readers, etc. - allow	1	EA	15,000.00	15,000
	106					
	107	<b>INTERIOR DOORS</b>				71,750
	108					
<b>C1030</b>	109					
	110	<b>SPECIALTIES</b>				
	111					
	112	Interior code related signage - allow	1,895	SF	2.50	4,738
	113	Metal guardrail at new walkway	124	LF	750.00	93,000
	114	Miscellaneous interior fittings - allow	1,895	SF	2.50	4,738
	115					
	116	<b>SPECIALTIES</b>				102,476
	117					
<b>C3010</b>	118					
	119	<b>WALL FINISHES</b>				
	120					
	121	Paint to walls	9,783	SF	3.50	34,241
	122					
	123	<b>WALL FINISHES</b>				34,241
	124					
	125					

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
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 4.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE**

Date: 07/22/2022 Final

Floor Area: 4,434 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
<b>C3020</b>	126	<b>FLOOR FINISHES</b>				
	127					
	128	New flooring and base at build-out - allow	2,539	SF	15.00	38,085
	129					
	130	<b>FLOOR FINISHES</b>				38,085
	131					
<b>C3030</b>	132	<b>CEILING FINISHES</b>				
	133					
	134					
	135	New ceiling finish at build-out - allow	2,539	SF	20.00	50,780
	136					
	137	<b>CEILING FINISHES</b>				50,780
	138					
<b>D1520</b>	145	<b>PLUMBING</b>				
	146					
	147					
	148	Not Required				
	149					
	150	<b>PLUMBING</b>				
	151					
<b>D1530</b>	152	<b>HVAC</b>				
	153					
	154					
	155	Air handling units				
	156	Recirculation fans	4,434	SF	8.00	35,472
	157					
	158	Passive system				
	159	Electric radiant heaters	4,434	SF	12.00	53,208
	160	Electric wall radiators	4,434	SF	14.00	62,076
	161					
	162	Controls and instrumentation				
	163	DDC controls	4,434	SF	12.00	53,208
	164					
165	Testing and balancing					
166	Testing and balancing	4,434	SF	3.00	13,302	
167	Commissioning assistance	4,434	SF	1.50	6,651	
	168					

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 4.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE**

Date: 07/22/2022 Final

Floor Area: 4,434 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	169	Unit Ventilation				
	170	Exhaust fans	4,434	SF	6.00	26,604
	171					
	172	Miscellaneous HVAC				
	173	Project requirements, project management, detailing, coordination, etc.	1	LS	45,093.78	45,094
	174					
	175	<b>HVAC</b>				295,615
	176					
<b>D1540</b>	177					
	178	<b>FIRE PROTECTION</b>				
	179					
	180	Automatic wet sprinkler system - modify and reuse existing	4,434	SF	12.00	53,208
	181					
	182	<b>FIRE PROTECTION</b>				53,208
	183					
<b>D5010</b>	184					
	185	<b>ELECTRICAL DISTRIBUTION</b>				
	186					
	187	Main normal power				
	188	480V Distribution switchboard, 800A	1	LS	68,000.00	68,000
	189	Feeder conduit and wire	300	LF	180.00	54,000
	190	Power monitoring	1	LS	20,000.00	20,000
	191	Grounding	4,434	SF	0.50	2,217
	192					
	193	Machine and equipment power				
	194	Bridge crane 20 tons	2	EA	10,000.00	20,000
	195	Miscellaneous power connections	4,434	SF	1.50	6,651
	196					
	197	User convenience power				
	198	Receptacles				Existing
	199					
	200	Trade demolition				
	201	Demo existing	40	HR	205.00	8,200
	202	Temporary power	1	WK	15,000.00	15,000
	203					

**SAN FRANCISCO CABLE CAR BARN  
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4.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE**

Date: 07/22/2022 Final

Floor Area: 4,434 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	204	Miscellaneous electrical				
	205	Project requirements, project management, detailing, coordination, etc.	1	LS	34,932.24	34,932
	206					
	207	<b>ELECTRICAL DISTRIBUTION</b>				229,000
	208					
<b>D5020</b>	209					
	210	<b>LIGHTING &amp; BRANCH WIRING</b>				
	211					
	212	New lighting and lighting controls	4,434	SF	30.00	133,020
	213					
	214	<b>LIGHTING &amp; BRANCH WIRING</b>				133,020
	215					
<b>D5030</b>	216					
	217	<b>COMMUNICATION &amp; SECURITY</b>				
	218					
	219	Telecommunications, including CAT6A cabling, conduit and outlets and WAPs				Not Required
	220	Fire alarm system, including new fire alarm panel and annunciator, fire alarm devices, conduit and cable	4,434	SF	18.00	79,812
	221	Security system, including access control, video surveillance monitoring, conduit and cable	4,434	SF	6.00	26,604
	222					
	223	<b>COMMUNICATION &amp; SECURITY</b>				106,416
	224					
<b>D5040</b>	225					
	226	<b>AUDIO VISUAL SYSTEM</b>				
	227					
	228	A/V conduit only	4,434	SF	5.00	22,170
	229					
	230	<b>AUDIO VISUAL SYSTEM</b>				22,170
<b>E10</b>	231					
	232	<b>OTHER EQUIPMENT</b>				
	233					
	234	New 20-ton crane - allow	1	EA	250,000.00	250,000

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 4.2 PHASE 1B: 20TON BRIDGE CRANE UPGRADE**

Date: 07/22/2022 Final

Floor Area: 4,434 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	235	Miscellaneous equipment at Office Addition (AV, etc.)	2,539	SF	10.00	25,390
	236					
	237	<b>OTHER EQUIPMENT</b>				275,390
	238					
<b>E20</b>	239					
	240	<b>CASEWORK</b>				
	241					
	242	Built-in casework at 1M58	6	LF	600.00	3,600
	243	Miscellaneous fixed furnishings - allow	2,539	SF	3.00	7,617
	244					
	245	<b>CASEWORK</b>				11,217

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 4.3 PHASE 2: OFFICE IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 10,471 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
<b>A1010</b>	1	<b>TRADE DEMOLITION</b>				
	2					
	3	Demolition as required - allow	10,471	SF	15.00	157,065
	4					
	5	<b>TRADE DEMOLITION</b>				157,065
	6					
<b>B1010</b>	31					
	32	<b>FLOOR CONSTRUCTION</b>				
	33					
	34	Structural upgrade at elevators - allow	1	LS	150,000.00	150,000
	35	Structural upgrade at new restroom - allow for new beam and concrete on metal deck	146	SF	300.00	43,800
	36					
37	<b>FLOOR CONSTRUCTION</b>				193,800	
38						
<b>C1010</b>	75					
	76	<b>PARTITIONS</b>				
	77					
	78	New metal stud partition framing	16,497	SF	22.50	371,183
	79	Insulation at new interior partition	16,497	SF	5.00	82,485
	80	Gypsum board partition sheathing, taped and sanded	32,994	SF	7.50	247,455
	81	Patch and repair existing interior partitions and wall surrounding build-out - allow	6,170	SF	2.50	15,425
	82	Wall infill at opening	132	SF	75.00	9,900
	83	Acoustic sealant	4,399	LF	5.00	21,995
	84	Interior glazing	854	SF	150.00	128,100
	85	Tempered glass wall installed behind existing guardrail - allow to 10' tall	2,300	SF	200.00	460,000
	86	Wire mesh partition at Bicycle Storage	24	LF	150.00	3,600
87						
88	<b>PARTITIONS</b>				1,340,143	
89						
<b>C1020</b>	90					
	91	<b>INTERIOR DOORS</b>				
	92					
94	Hollow metal door in hollow metal frame with hardware, 3'-0" x 7'-0" single	35	EA	3,500.00	122,500	

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.3 PHASE 2: OFFICE IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 10,471 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	95	Hollow metal door in hollow metal frame with hardware and half glass, 3'-0" x 7'-0" single	2	EA	4,250.00	8,500
	96	Aluminum glazed entry door, 6'-0" x 7'-2" pair	1	PR	10,500.00	10,500
	97	Aluminum glazed entry door, 3'-0" x 7'-2" single	3	EA	5,500.00	16,500
	98	Wire mesh pedestrian gate	1	EA	1,750.00	1,750
	99	Specialty hardware (panic, etc.) - allow	1	LS	50,000.00	50,000
	100	Card readers, etc. - allow	1	EA	50,000.00	50,000
	101					
	102	<b>INTERIOR DOORS</b>				259,750
	103					
<b>C1030</b>	104	<b>SPECIALTIES</b>				
	105					
	106					
	107	Interior code related signage - allow	10,471	SF	2.50	26,178
	108	Miscellaneous interior fittings - allow	10,471	SF	2.50	26,178
	109	Metal crash protection rail	7	LF	150.00	1,050
	110	Locker on curb	338	LF	550.00	185,900
	111	Locker room bench	25	LF	225.00	5,625
	112	Locker room bench, accessible	24	LF	300.00	7,200
	113	Toilet partition, accessible	8	EA	1,500.00	12,000
	114	Toilet partition, standard	7	EA	1,200.00	8,400
	115	Urinal screen	3	EA	850.00	2,550
	116	Sliding barn style partition at shower	2	EA	2,500.00	5,000
	117	Shower bench and accessories	9	EA	1,500.00	13,500
	118	Grab bar, pair	21	EA	350.00	7,350
	119	Toilet accessories - allow	1	LS	25,000.00	25,000
	120					
	121	<b>SPECIALTIES</b>				325,931
	122					
<b>C3010</b>	123	<b>WALL FINISHES</b>				
	124					
	125					
	126	Paint to walls	39,164	SF	3.50	137,074
	127					
	128	<b>WALL FINISHES</b>				137,074
	129					
	130					

**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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BASED ON FINAL MASTERPLAN DOCUMENTS  
4.3 PHASE 2: OFFICE IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 10,471 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
<b>C3020</b>	131	<b>FLOOR FINISHES</b>				
	132					
	133	New flooring finish with base - allow	10,471	SF	15.00	157,065
	134					
	135	<b>FLOOR FINISHES</b>				157,065
	136					
<b>C3030</b>	137					
	138	<b>CEILING FINISHES</b>				
	139					
	140	New ceiling finish - allow	10,471	SF	20.00	209,420
	141					
	142	<b>CEILING FINISHES</b>				209,420
<b>D1010</b>	143					
	145	<b>ELEVATORS &amp; LIFTS</b>				
	146					
	147	Elevator upgrades to existing passenger and freight systems	1	LS	315,000.00	315,000
	148					
	149	<b>ELEVATORS &amp; LIFTS</b>				315,000
<b>D1520</b>	150					
	151					
	152	<b>PLUMBING</b>				
	153					
	154	Sanitary fixtures	63	FX		
	155	Waterclosets	18	EA	3,500.00	63,000
	156	Urinals	7	EA	2,000.00	14,000
	157	Lavatories	17	EA	2,800.00	47,600
	158	Kitchen sink	3	EA	3,500.00	10,500
	159	Sinks	1	EA	3,500.00	3,500
	160	Showers	9	EA	5,000.00	45,000
	161	Service sink	4	EA	6,000.00	24,000
	162	Drinking fountains/bottle fillers	4	EA	7,500.00	30,000
	163					
164	Sanitary waste, vent and domestic service piping					
165	Fixture rough-ins	63	EA	15,000.00	945,000	
166	Condensate drainage	10,471	SF	3.50	36,649	
167						

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 4.3 PHASE 2: OFFICE IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 10,471 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	168	Water treatment and storage				
	169	Electric water heaters	10,471	SF	4.00	41,884
	170					
	171	Gas distribution				
	172	None				
	173					
	174	Surface water drainage				
	175	None				
	176					
	177	Testing and sterilization				
	178	Testing and sterilization	95	HR	205.00	19,373
	179					
	180	Industrial Fixtures				
	181	Eyewash, complete with in-line tepid water heater	2	EA	6,600.00	13,200
	182					
	183	Industrial equipment				
	184	Compressed air and dryer				See Equipment
	185					
	186	Industrial distribution piping				
	187	Compressed air piping	10,471	SF	10.00	104,710
	188	Natural gas piping	10,471	SF	6.00	62,826
	189	Valves and specialties, including outlets	1	LS	41,884.00	41,884
	190					
	191	Miscellaneous Plumbing				
	192	Project requirements, project management, detailing, coordination, etc.	1	LS	270,562.68	270,563
	193					
	194					
	195	<b>PLUMBING</b>				1,773,689
	196					
<b>D1530</b>	197					
	198	<b>HVAC</b>				
	199					
	200	Piping, valves and specialties				
	201	Refrigerant piping, insulation valves and specialties	10,471	SF	8.00	83,768
	202					

**SAN FRANCISCO CABLE CAR BARN  
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 4.3 PHASE 2: OFFICE IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 10,471 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	203	Air handling units				
	204	VRF Heat pump system, electric	10,471	SF	15.00	157,065
	205					
	206	Air distribution and return				
	207	Galvanized sheetmetal ductwork, volume dampers, duct insulation, sound traps	10,471	SF	18.00	188,478
	208					
	209	Diffusers, registers and grilles				
	210	Diffusers, registers and grilles	10,471	SF	3.00	31,413
	211					
	212	Passive system				
	213	Electric radiant heaters	10,471	SF	10.00	104,710
	214	Electric wall radiators	10,471	SF	14.00	146,594
	215					
	216	Controls and instrumentation				
	217	DDC controls	10,471	SF	12.00	125,652
	218					
	219	Testing and balancing				
	220	Testing and balancing	10,471	SF	3.00	31,413
	221	Commissioning assistance	10,471	SF	1.50	15,707
	222					
	223	Unit Ventilation				
	224	Galvanized sheetmetal ductwork, exhaust	10,471	SF	3.00	31,413
	225	Stainless steel ductwork, exhaust	10,471	SF	1.00	10,471
	226	Exhaust fans	10,471	SF	5.00	52,355
	227					
	228	Miscellaneous HVAC				
	229	Project requirements, project management, detailing, coordination, etc.	1	LS	176,227.02	176,227
	230					
	231	<b>HVAC</b>				1,155,266
	232					
<b>D1540</b>	233	<b>FIRE PROTECTION</b>				
	234	<b>FIRE PROTECTION</b>				
	235					
	236	Automatic wet sprinkler system	10,471	SF	12.00	125,652
	237	Room 109				
	238	FM200 and control panel	353	SF	300.00	105,900

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.3 PHASE 2: OFFICE IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 10,471 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	239	Preaction double interlock system	1	LS	40,000.00	40,000
	240					
	241	<b>FIRE PROTECTION</b>				271,552
	242					
<b>D5010</b>	243					
	244	<b>ELECTRICAL DISTRIBUTION</b>				
	245					
	246	Main normal power				
	247	480V Distribution switchboard, 800A	1	LS	68,000.00	68,000
	248	Reuse existing panelboards				Existing
	249	Feeder conduit and wire	300	LF	1,250.00	375,000
	250	Power monitoring	1	LS	15,000.00	15,000
	251	Grounding	10,471	SF	0.50	5,236
	252					
	253	Machine and equipment power				
	254	Carpentry power				Existing
	255	Miscellaneous power connections	10,471	SF	1.50	15,707
	256					
	257	User convenience power				
	258	Receptacles	10,471	SF	6.00	62,826
	259					
	260	Trade demolition				
	261	Demo existing	10,471	SF	10.00	104,710
	262					
	263	Miscellaneous electrical				
	264	Project requirements, project management, detailing, coordination, etc.	1	LS	116,366.22	116,366
	265					
	266	<b>ELECTRICAL DISTRIBUTION</b>				762,845
	267					
<b>D5020</b>	268					
	269	<b>LIGHTING &amp; BRANCH WIRING</b>				
	270					
	271	Lighting	10,471	SF	35.00	366,485
	272					
	273	<b>LIGHTING &amp; BRANCH WIRING</b>				366,485
	274					
	275					

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 4.3 PHASE 2: OFFICE IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 10,471 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
D5030	276	<b>COMMUNICATION &amp; SECURITY</b>				
	277					
	278	Telecommunications, including CAT6A cabling, conduit and outlets and WAPs	10,471	SF	18.00	188,478
	279	Fire alarm system, including new fire alarm panel and annunciator, fire alarm devices, conduit and cable	10,471	SF	18.00	188,478
	280	Security system, including access control, video surveillance monitoring, conduit and cable	10,471	SF	6.00	62,826
	281					
	282	<b>COMMUNICATION &amp; SECURITY</b>				439,782
	283					
D5040	284					
	285	<b>AUDIO VISUAL SYSTEM</b>				
	286					
	287	A/V conduit only	10,471	SF	5.00	52,355
	288					
	289	<b>AUDIO VISUAL SYSTEM</b>				52,355
E10	290					
	291	<b>OTHER EQUIPMENT</b>				
	292					
	293	Residential grade kitchen appliances - allow	1	LS	10,000.00	10,000
	294	Bicycle rack	1	LS	3,500.00	3,500
	295	Miscellaneous equipment (AV, etc.) - allow	10,471	SF	10.00	104,710
	296					
297	<b>OTHER EQUIPMENT</b>				118,210	
	298					
E20	299					
	300	<b>CASEWORK</b>				
	301					
	302	Built-in casework	43	LF	600.00	25,800
	303	Miscellaneous fixed furnishings - allow	10,471	SF	3.00	31,413
304						
305	<b>CASEWORK</b>				57,213	

**SAN FRANCISCO CABLE CAR BARN  
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 4.4 PHASE 3A: PROGRAMMING RESTRUCTURING**

Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total				
<b>A1010</b>	1	<b>TRADE DEMOLITION</b>	8,119	SF	12.50	101,488				
	2									
	3									
	4	Demolition as required - allow								
	5									
	6	<b>TRADE DEMOLITION</b>					101,488			
	7									
<b>C1010</b>	60	<b>PARTITIONS</b>								
	61									
	62	New metal stud partition framing	1,794	SF	22.50	40,365				
	63	Insulation at new interior partition	1,794	SF	5.00	8,970				
	64	Gypsum board partition sheathing, taped and sanded	3,588	SF	7.50	26,910				
	65	Patch and repair existing interior partitions and wall surrounding build-out - allow	2,500	SF	2.50	6,250				
	66	Acoustic sealant	478	LF	5.00	2,390				
	67	Wire mesh partition	172	LF	150.00	25,800				
	68	Premium, removeable wire mesh partition	25	LF	50.00	1,250				
	69									
	70	<b>PARTITIONS</b>				111,935				
71										
<b>C1020</b>	72	<b>INTERIOR DOORS</b>								
	73									
	74									
	75	Hollow metal door in hollow metal frame with hardware, 6'-0" x 7'-0" pair					1	PR	6,000.00	6,000
	76	Hollow metal door in hollow metal frame with hardware, 3'-0" x 7'-0" single					1	EA	3,500.00	3,500
	77	Hollow metal door in hollow metal frame with hardware and side narrow lite, 3'-0" x 7'-0" single					1	EA	3,850.00	3,850
	78	Wire mesh pedestrian gate					2	EA	1,750.00	3,500
	79	Wire mesh sliding gate					3	EA	3,500.00	10,500
	80	Overhead coiling door, 10'-0" x 9'-0"					1	EA	11,250.00	11,250
	81	Overhead coiling door, 12'-0" x 9'-0"					1	EA	13,500.00	13,500
	82	Specialty hardware (panic, etc.) - allow					1	LS	5,000.00	5,000

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Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	83	Card readers, etc. - allow	1	EA	5,000.00	5,000
	84					
	85	<b>INTERIOR DOORS</b>				62,100
	86					
<b>C1030</b>	87					
	88	<b>SPECIALTIES</b>				
	89					
	90	Interior code related signage - allow	8,119	SF	2.50	20,298
	91	Miscellaneous interior fittings - allow	8,119	SF	2.50	20,298
	92					
	93	<b>SPECIALTIES</b>				40,596
	94					
<b>C3010</b>	95					
	96	<b>WALL FINISHES</b>				
	97					
	98	Paint to walls	6,088	SF	3.50	21,308
	99					
	100	<b>WALL FINISHES</b>				21,308
	101					
<b>C3020</b>	102					
	103	<b>FLOOR FINISHES</b>				
	104					
	105	New flooring finish with base - allow	7,766	SF	15.00	116,490
	106					
	107	<b>FLOOR FINISHES</b>				116,490
	108					
<b>C3030</b>	109					
	110	<b>CEILING FINISHES</b>				
	111					
	112	New ceiling finish - allow	7,766	SF	20.00	155,320
	113					
	114	<b>CEILING FINISHES</b>				155,320
	115					
<b>D1520</b>	123	<b>PLUMBING</b>				
	124					
	125	Sanitary fixtures	5	FX		
	126	Waterclosets	1	EA	3,500.00	3,500
	127	Urinals	1	EA	2,000.00	2,000
	128	Lavatories	1	EA	2,800.00	2,800

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 4.4 PHASE 3A: PROGRAMMING RESTRUCTURING**

Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	129	Sinks	1	EA	3,500.00	3,500
	130	Drinking fountains/bottle fillers	1	EA	7,500.00	7,500
	131					
	132	Sanitary waste, vent and domestic service piping				
	133	Fixture rough-ins	5	EA	15,000.00	75,000
	134	Condensate drainage	7,766	SF	3.50	27,181
	135					
	136	Water treatment and storage				
	137	Electric water heaters	7,766	SF	20.00	155,320
	138					
	139	Gas distribution				
	140	None	7,766	SF	2.50	19,415
	141					
	142	Surface water drainage				
	143	None	7,766	SF	5.00	38,830
	144					
	145	Testing and sterilization				
	146	Testing and sterilization	7,766	SF	2.50	19,415
	147					
	148	Industrial Fixtures				
	149	Eyewash, complete with in-line tepid water heater	7,766	SF	2.50	19,415
	150					
	151	Industrial equipment				
	152	Compressed air and dryer				See Equipment
	153	Vacuum pump	1	LS	35,000.00	35,000
	154					
	155	Industrial distribution piping				
	156	Vacuum piping	7,766	SF	8.00	62,128
	157	Compressed air piping	7,766	SF	8.00	62,128
	158	Natural gas piping	7,766	SF	8.00	62,128
	159	Valves and specialties, including outlets	7,766	SF	3.00	23,298
	160	Connection to existing	7,766	SF	3.00	23,298
	161					
	162	Miscellaneous Plumbing				
	163	Project requirements, project management, detailing, coordination, etc.	1	LS	115,534.08	115,534
	164					
	165	<b>PLUMBING</b>				<b>757,390</b>
	166					

**SAN FRANCISCO CABLE CAR BARN  
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 4.4 PHASE 3A: PROGRAMMING RESTRUCTURING**

Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
<b>D1530</b>	167					
	168	<b>HVAC</b>				
	169					
	170	Piping, valves and specialties				
	171	Refrigerant piping, insulation valves and specialties	7,766	SF	6.00	46,596
	172					
	173	Air handling units				
	174	VRF Heat pump system, electric	7,766	SF	15.00	116,490
	175					
	176	Air distribution and return				
	177	Galvanized sheetmetal ductwork, volume dampers, duct insulation, sound traps	7,766	SF	18.00	139,788
	179	Diffusers, registers and grilles				
	180	Diffusers, registers and grilles	7,766	SF	3.00	23,298
	182	Passive system				
	183	Electric radiant heaters	7,766	SF	10.00	77,660
	184	Electric wall radiators	7,766	SF	14.00	108,724
	185					
	186	Controls and instrumentation				
	187	DDC controls	7,766	SF	12.00	93,192
	188					
189	Testing and balancing					
190	Testing and balancing	7,766	SF	3.00	23,298	
191	Commissioning assistance	7,766	SF	1.50	11,649	
192						
193	Unit Ventilation					
194	Galvanized sheetmetal ductwork, exhaust	7,766	SF	2.00	15,532	
195	Stainless steel ductwork, exhaust	7,766	SF	3.00	23,298	
196	Exhaust fans	7,766	SF	5.00	38,830	
197						
198	Miscellaneous HVAC					
199	Project requirements, project management, detailing, coordination, etc.	1	LS	129,303.90	129,304	
200						
201	<b>HVAC</b>				847,659	
202						
203						

**SAN FRANCISCO CABLE CAR BARN  
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 4.4 PHASE 3A: PROGRAMMING RESTRUCTURING**

Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
D1540	204	<b>FIRE PROTECTION</b>				
	205					
	206	Automatic wet sprinkler system - modify and reuse existing	7,766	SF	12.00	93,192
	207					
	208	<b>FIRE PROTECTION</b>				93,192
	209					
D5010	210					
	211	<b>ELECTRICAL DISTRIBUTION</b>				
	212					
	213	Main normal power				
	214	480V Distribution switchboard, 800A	1	LS	68,000.00	68,000
	215	Reuse existing panelboards				Existing
	216	Feeder conduit and wire	300	LF	1,500.00	450,000
	217	Power monitoring	1	LS	15,000.00	15,000
	218	Grounding	7,766	SF	0.50	3,883
	219					
	220	Machine and equipment power				
	221	Carpentry power				Existing
	222	2 ton bridge crane	1	EA	85,000.00	85,000
	223	Miscellaneous power connections	7,766	SF	3.00	23,298
	224					
	225	User convenience power				
	226	Receptacles	7,766	SF	6.00	46,596
	227					
	228	Trade demolition				
	229	Demo existing	7,766	SF	10.00	77,660
230						
231	Miscellaneous electrical					
232	Project requirements, project management, detailing, coordination, etc.	1	LS	138,498.66	138,499	
233						
234	<b>ELECTRICAL DISTRIBUTION</b>				907,936	
235						
236						

**SAN FRANCISCO CABLE CAR BARN  
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 4.4 PHASE 3A: PROGRAMMING RESTRUCTURING**

Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
D5020	237	<b>LIGHTING &amp; BRANCH WIRING</b>				
	238					
	239	Lighting	7,766	SF	30.00	232,980
	240					
	241	<b>LIGHTING &amp; BRANCH WIRING</b>				232,980
	242					
D5030	243					
	244	<b>COMMUNICATION &amp; SECURITY</b>				
	245					
	246	Telecommunications, including CAT6A cabling, conduit and outlets and WAPs				Not Required
	247	Fire alarm system, including new fire alarm panel and annunciator, fire alarm devices, conduit and cable	7,766	SF	18.00	139,788
	248	Security system, including access control, video surveillance monitoring, conduit and	7,766	SF	6.00	46,596
	249					
250	<b>COMMUNICATION &amp; SECURITY</b>				186,384	
251						
D5040	252					
	253	<b>AUDIO VISUAL SYSTEM</b>				
	254					
	255	A/V conduit only	7,766	SF	5.00	38,830
256						
257	<b>AUDIO VISUAL SYSTEM</b>				38,830	
E10	258					
	259	<b>OTHER EQUIPMENT</b>				
	260					
	261	Machine shop equipment				
	262	CNC Lathe	1	EA	15,000.00	15,000
	263	Lathe Bed	1	EA		Relocate Existing
	264	Manual Lathes	1	EA		Relocate Existing
	265	Vertical Mill - Haas	1	EA		Relocate Existing
	266	Vertical Mill - Bridgeport	1	EA		Relocate Existing
	267	Drill press	1	EA		Relocate Existing
	268	Gear head drill press	1	EA		Relocate Existing
269	Hydraulic press	1	EA		Relocate Existing	
270	Arbor Press	1	EA		Relocate Existing	
271	Hydraulic press	1	EA		Relocate Existing	

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4.4 PHASE 3A: PROGRAMMING RESTRUCTURING**

Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	272	Vertical band saw	1	EA		Relocate Existing
	273	Horizontal band saw	1	EA		Relocate Existing
	274	Hydraulic ironworker	1	EA		Relocate Existing
	275	Floor sander	1	EA		Relocate Existing
	276	Parts washer	1	EA		Relocate Existing
	277	Drum-mounted parts washer	1	EA		Relocate Existing
	278	Sand blaster cabinet	1	EA		Relocate Existing
	279	Pedestal grinder	1	EA		Relocate Existing
	280	Drill sharpener	1	EA		Relocate Existing
	281	End Mill sharpener	1	EA		Relocate Existing
	282	CNC tooling carts	1	EA		Relocate Existing
	283	Jib crane 1.5 tons	1	EA	2,500.00	2,500
	284	Plasma cutter	1	EA		Relocate Existing
	285	Automatic surface grinder	1	EA	7,500.00	7,500
	286	Pipe storage	1	EA		Relocate Existing
	287	Relocate and move existing equipment	200	HR	125.00	25,000
	288					
	289	Weld Shop				
	290	Welder	1	EA		Relocate Existing
	291	Stick welder	1	EA		Relocate Existing
	292	Mig Cart	1	EA		Relocate Existing
	293	Welder - Miller	1	EA		Relocate Existing
	294	Oxygen/Acetylene Cart	1	EA		Relocate Existing
	295	Welding fume extractor	1	EA		Relocate Existing
	296	Pedestal grinder	1	EA		Relocate Existing
	297	Welding /Frame Table	1	EA		Relocate Existing
	298	Tool workstation	1	EA		Relocate Existing
	299	Desk workstation	1	EA		Relocate Existing
	300	Cabinet storage	1	EA		Relocate Existing
	301	Tool cabinet	1	EA		Relocate Existing
	302	Table workstation	1	EA		Relocate Existing
	303	Storage shelves	1	EA		Relocate Existing
	304	Smog Hog	1	EA		Relocate Existing
	305	Metal cart	1	EA		Relocate Existing
	306	Scrap metal storage area	1	EA		Relocate Existing
	307	Scape metal cart	1	EA		Relocate Existing
	308	Relocate and move existing equipment	144	HR	125.00	18,000
	309					
	310	New inspection room				
	311	Hardness tester	1	EA		Relocate Existing

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Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	312	Measuring arm	1	EA		Relocate Existing
	313	Optical comparator	1	EA		Relocate Existing
	314	Tools storage	1	EA		Relocate Existing
	315	Granite block table	1	EA		Relocate Existing
	316	Spring compressor	1	EA		Relocate Existing
	317	Relocate and move existing equipment	48	HR	125.00	6,000
	318					
	319	Grip Building Area				
	320	Elevating platforms	2	EA		Relocate Existing
	321	Workstations	2	EA		Relocate Existing
	322	Tool cabinet	1	EA		Relocate Existing
	323	Parts washer	1	EA		Relocate Existing
	324	Scrap metal cart	1	EA		Relocate Existing
	325	Palette	1	EA		Relocate Existing
	326	Grip Washer	1	EA		Relocate Existing
	327	Relocate and move existing equipment	72	HR	125.00	9,000
	328					
	329	Steam Cleaning Area				
	330	Parts washer	1	EA		Relocate Existing
	331	Pressure washer	1	EA		Relocate Existing
	332	Steam cleaning bay	1	EA		Relocate Existing
	333	Hot pressure washer	1	EA		Relocate Existing
	334	Relocate and move existing equipment	32	HR	125.00	4,000
	335					
	336	Paint Group				
	337	Vehicle Duster	1	EA		Relocate Existing
	338	Air filtration	1	EA	3,000.00	3,000
	339	Parts washer	2	EA		Relocate Existing
	340	Air compressor	1	EA		Relocate Existing
	341	Shop vacuum	1	EA		Relocate Existing
	342	Bench buffer	1	EA		Relocate Existing
	343	Relocate and move existing equipment	56	HR	125.00	7,000
	344					
	345	Pulley Assembly Area				
	346	H Frame press	1	EA		Relocate Existing
	347	Pedestal grinder	1	EA		Relocate Existing
	348	Wheel racks storage	1	EA		Relocate Existing
	349	Depression work beam area	1	EA		Relocate Existing
	350	Sandblaster cabinet	1	EA		Relocate Existing
	351	Mobile cart	2	EA		Relocate Existing

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Date: 07/22/2022 Final

Floor Area: 7,766 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	352	Tool workstation	1	EA		Relocate Existing
	353	LG pulley storage	2	EA		Relocate Existing
	354	Mobile shield	2	EA		Relocate Existing
	355	SM pulley storage	3	EA		Relocate Existing
	356	Tool box	1	EA		Relocate Existing
	357	Depression beam storage	1	EA		Relocate Existing
	358	Miscellaneous shelving	2	EA		Relocate Existing
	359	Relocate and move existing equipment	152	HR	125.00	19,000
	360					
	361	Car Cleaning and Level 2 Storage				
	362	Shed	1	EA		Relocate Existing
	363	55 gallon drums	5	EA		Relocate Existing
	364	1 gallon Adran Jel-R	6	EA		Relocate Existing
	365	1 gallon SF Blue	6	EA		Relocate Existing
	366	Storage rack	1	EA		Relocate Existing
	367	Metal garbage bin	2	EA		Relocate Existing
	368	Recycling bin	1	EA		Relocate Existing
	369	Compost bin	3	EA		Relocate Existing
	370	Sand pallet	6	EA		Relocate Existing
	371	Relocate and move existing equipment	248	HR	125.00	31,000
	372					
	373	Compact storage	1	LS	25,000	25,000
	374					
	375	Residential grade kitchen appliances - allow	1	LS	10,000	10,000
	376	Miscellaneous equipment (AV, etc.) - allow	8,119	SF	10.00	81,190
	377					
	378	<b>OTHER EQUIPMENT</b>				263,190
	379					
<b>E20</b>	380					
	381	<b>CASEWORK</b>				
	382					
	383	Built-in casework	23	LF	600.00	13,800
	384	Miscellaneous fixed furnishings - allow	8,119	SF	3.00	24,357
	385					
	386	<b>CASEWORK</b>				38,157

**SAN FRANCISCO CABLE CAR BARN  
ROM CONSTRUCTION COST ESTIMATE  
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Final Master Plan Documents  
4.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final

Roof Area 3,440 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
A1010	1					
	2	<b>TRADE DEMOLITION</b>				
	3					
	4	Demolition as required - allow	3,440	SF	12.50	43,000
	5					
	6	<b>TRADE DEMOLITION</b>				43,000
	7					
C1010	94	<b>PARTITIONS</b>				
	95					
	96	New metal stud partition framing	2,370	SF	22.50	53,325
	97	Insulation at new interior partition	2,370	SF	5.00	11,850
	98	Gypsum board partition sheathing, taped and sanded	4,740	SF	7.50	35,550
	99	Patch and repair existing interior partitions and wall surrounding build-out - allow	1,500	SF	2.50	3,750
	100	Acoustic sealant	632	LF	5.00	3,160
	101	Interior glazing	32	SF	150.00	4,800
	102	Wire mesh partition	10	LF	150.00	1,500
	103					
	104	<b>PARTITIONS</b>				113,935
105						
C1020	106					
	107	<b>INTERIOR DOORS</b>				
	108					
	109	Hollow metal door in hollow metal frame with hardware and half glass, 3'-0" x 7'-0" single	2	EA	4,000.00	8,000
		Hollow metal door in hollow metal frame with hardware and narrow side glass, 3'-0" x 7'-0" single	2	EA	3,850.00	7,700
	111	Wire mesh pedestrian gate	1	EA	1,750.00	1,750
	112	Specialty hardware (panic, etc.) - allow	1	LS	7,500.00	7,500
	113	Card readers, etc. - allow	1	EA	7,500.00	7,500
114						
115	<b>INTERIOR DOORS</b>				32,450	
116						
C1030	117					
	118	<b>SPECIALTIES</b>				
	119					
	120	Interior code related signage - allow	3,440	SF	2.50	8,600
	121	Removeable guardrail at Pits	240	LF	500.00	120,000

**SAN FRANCISCO CABLE CAR BARN  
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Final Master Plan Documents  
4.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final

Roof Area 3,440 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	122	Miscellaneous interior fittings - allow	3,440	SF	2.50	8,600
	123					
	124	<b>SPECIALTIES</b>				137,200
	125					
<b>C3010</b>	126					
	127	<b>WALL FINISHES</b>				
	128					
	129	Paint to walls	6,240	SF	3.50	21,840
	130					
	131	<b>WALL FINISHES</b>				21,840
	132					
<b>C3020</b>	133					
	134	<b>FLOOR FINISHES</b>				
	135					
	136	New flooring finish with base - allow	3,440	SF	15.00	51,600
	137					
	138	<b>FLOOR FINISHES</b>				51,600
	139					
<b>C3030</b>	140					
	141	<b>CEILING FINISHES</b>				
	142					
	143	New ceiling finish - allow	3,440	SF	20.00	68,800
	144					
	145	<b>CEILING FINISHES</b>				68,800
	146					
<b>D1520</b>	147					
	166	<b>PLUMBING</b>				
	167					
	168	Sanitary fixtures	1	FX		
	169	Sinks	1	EA	3,500.00	3,500
	170					
	171	Sanitary waste, vent and domestic service piping				
	172	Fixture rough-ins	1	EA	15,000.00	15,000
	173	Condensate drainage	3,440	SF	3.50	12,040
	174					
	175	Water treatment and storage				
	176	Electric water heaters	3,440	SF	20.00	68,800
	177					

**SAN FRANCISCO CABLE CAR BARN  
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Final Master Plan Documents  
4.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final

Roof Area 3,440 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	178	Gas distribution				
	179	None	3,440	SF	2.50	8,600
	180					
	181	Surface water drainage				
	182	None	3,440	SF	5.00	17,200
	183					
	184	Testing and sterilization				
	185	Testing and sterilization	3,440	SF	2.50	8,600
	186					
	187	Industrial Fixtures				
	188	Eyewash, complete with in-line tepid water heater	1	EA	6,000.00	6,000
	189					
	190	Industrial equipment				
	191	Compressed air and dryer				See Equipment
	192	Vacuum dust collector	1	LS	35,000.00	35,000
	193					
	194	Industrial distribution piping				
	195	Vacuum piping	3,440	SF	8.00	27,520
	196	Compressed air piping	3,440	SF	8.00	27,520
	197	Natural gas piping	3,440	SF	8.00	27,520
	198	Valves and specialties, including outlets	3,440	SF	3.00	10,320
	199	Connection to existing	3,440	SF	3.00	10,320
	200					
	201	Miscellaneous Plumbing				
	202	Project requirements, project management, detailing, coordination, etc.	1	LS	50,029.20	50,029
	203					
	204					
	205	<b>PLUMBING</b>				327,969
	206					
<b>D1530</b>	207					
	208	<b>HVAC</b>				
	209					
	210	Piping, valves and specialties				
	211	Refrigerant piping, insulation valves and specialties	3,440	SF	6.00	20,640
	212					
	213	Air handling units				
	214	VRF Heat pump system, electric	3,440	SF	18.00	61,920
	215					

**SAN FRANCISCO CABLE CAR BARN  
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4.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final

Roof Area 3,440 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	216	Air distribution and return				
	217	Galvanized sheetmetal ductwork, volume dampers, duct insulation, sound traps	3,440	SF	18.00	61,920
	218					
	219	Diffusers, registers and grilles				
	220	Diffusers, registers and grilles	3,440	SF	3.00	10,320
	221					
	222	Passive system				
	223	Electric radiant heaters	3,440	SF	20.00	68,800
	224	Electric wall radiators	3,440	SF	15.00	51,600
	225					
	226	Controls and instrumentation				
	227	DDC controls	3,440	SF	12.00	41,280
	228					
	229	Testing and balancing				
	230	Testing and balancing	3,440	SF	2.50	8,600
	231	Commissioning assistance	3,440	SF	1.00	3,440
	232					
	233	Unit Ventilation				
	234	Galvanized sheetmetal ductwork, exhaust	3,440	SF	15.00	51,600
	235	Stainless steel ductwork, exhaust	3,440	SF	15.00	51,600
	236	Exhaust fans	3,440	SF	5.00	17,200
	237					
	238	Miscellaneous HVAC				
	239	Project requirements, project management, detailing, coordination, etc.	1	LS	80,805.60	80,806
	240					
	241	<b>HVAC</b>				529,726
	242					
<b>D1540</b>	243					
	244	<b>FIRE PROTECTION</b>				
	245					
	246	Automatic wet sprinkler system	3,440	SF	18.00	61,920
	247					
	248	<b>FIRE PROTECTION</b>				61,920
	249					
	250					

**SAN FRANCISCO CABLE CAR BARN  
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4.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final

Roof Area 3,440 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total	
D5010	251	<b>ELECTRICAL DISTRIBUTION</b>					
	252						
	253	Main normal power					
	254	480V Distribution switchboard, 800A	1	LS	68,000.00	68,000	
	255	Reuse existing panelboards				Existing	
	256	Feeder conduit and wire	300	LF	1,500.00	450,000	
	257	Power monitoring	1	LS	15,000.00	15,000	
	258	Grounding	3,440	SF	0.50	1,720	
	259						
	260	Machine and equipment power					
	261	Carpentry power				Existing	
	262	Miscellaneous power connections	3,440	SF	1.50	5,160	
	263						
	264	User convenience power					
	265	Receptacles	3,440	SF	6.00	20,640	
	266						
	267	Trade demolition					
	268	Demo existing	3,440	SF	10.00	34,400	
	269						
	270	Miscellaneous electrical					
	271	Project requirements, project management, detailing, coordination, etc.	1	LS	107,085.60	107,086	
	272						
	273	<b>ELECTRICAL DISTRIBUTION</b>				702,006	
	274						
	D5020	275	<b>LIGHTING &amp; BRANCH WIRING</b>				
		276					
		277					
278		Lighting	3,440	SF	30.00	103,200	
279							
280	<b>LIGHTING &amp; BRANCH WIRING</b>				103,200		
281							
D5030	282	<b>COMMUNICATION &amp; SECURITY</b>					
	283						
	284						
	285	Telecommunications, including CAT6A cabling, conduit and outlets and WAPs				Not Required	
286	Fire alarm system, including new fire alarm panel and annunciator, fire alarm devices, conduit and cable	3,440	SF	18.00	61,920		

**SAN FRANCISCO CABLE CAR BARN  
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4.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final

Roof Area 3,440 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	287	Security system, including access control, video surveillance monitoring, conduit and cable	3,440	SF	6.00	20,640
	288					
	289	<b>COMMUNICATION &amp; SECURITY</b>				82,560
	290					
<b>D5040</b>	291					
	292	<b>AUDIO VISUAL SYSTEM</b>				
	293					
	294	A/V conduit only	3,440	SF	5.00	17,200
	295					
	296	<b>AUDIO VISUAL SYSTEM</b>				17,200
	297					
<b>E10</b>	298					
	299	<b>OTHER EQUIPMENT</b>				
	300					
	301	Prefabricated Paint Booth				
	302	Garmat Frontier Spray Booth #46008	1	LS	134,393.55	134,394
	303	Duct package	1	LS	7,300.00	7,300
	304	Mechanical installation	1	LS	23,360.00	23,360
	305	Electrical/air line	1	LS	8,833.00	8,833
	306	Roof framing	2	EA	401.50	803
	307	Gas Plumbing	1	EA	803.00	803
	308	Fire sprinkler system - included				0
	309	Start-up	1	EA	1,533.00	1,533
	310	Rental	2	EA	802.50	1,605
	311	Freight	1	EA	5,000.00	5,000
	312	Permit Service	1	EA	3,750.00	3,750
	313	Permit Package	1	EA	3,125.00	3,125
	314	Tax	8.625%	%	141,694.00	12,221
	315	Anchoring				Included
	316	Slab on grade - existing				Existing
	317					
	318	Spray Room				
	319	No Equipment				
	321	Carpentry				
	322	Sliding miter saw	1	EA		Relocate Existing
	323	Dust extractor	1	EA		Relocate Existing
	324	Vertical bandsaw	1	EA		Relocate Existing
	325	Standing drill press	1	EA		Relocate Existing

**SAN FRANCISCO CABLE CAR BARN  
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4.5 PHASE 3B: CARPENTRY UPGRADES**

Date: 07/22/2022 Final

Roof Area 3,440 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	326	Bench grinder	1	EA		Relocate Existing
	327	Shop vac	1	EA		Relocate Existing
	328	Table saw	1	EA		Relocate Existing
	329	Dust collector	1	EA		Relocate Existing
	330	Band saw	1	EA		Relocate Existing
	331	Jointer	1	EA		Relocate Existing
	332	Planer	1	EA		Relocate Existing
	333	Sander	1	EA		Relocate Existing
	334	Table workstation	1	EA		Relocate Existing
	335	Storage shelves	1	EA		Relocate Existing
	336	Smog Hog	1	EA		Relocate Existing
	337	Metal cart	1	EA		Relocate Existing
	338	Scrap metal storage area	1	EA		Relocate Existing
	339	Scape metal cart	1	EA		Relocate Existing
	340	Spindle sander	1	EA		Relocate Existing
	341	Router Table - Replace	1	EA	1,000.00	1,000
	342	Air filtration system - Ceiling Mount OFCI	1	EA	600.00	600
	343	Paint Shaker	1	EA		Relocate Existing
	344	Dust extractor (HEPA)	1	EA		Relocate Existing
	345	Relocate and move existing equipment	184	HR	125.00	23,000
	346					
	347	Miscellaneous equipment (AV, etc.) - allow	3,440	SF	10.00	34,400
	348					
	349	<b>OTHER EQUIPMENT</b>				261,727
	350					
<b>E20</b>	351					
	352	<b>CASEWORK</b>				
	353					
	354	Miscellaneous fixed furnishings - allow	3,440	SF	3.00	10,320
	355					
	356	<b>CASEWORK</b>				10,320

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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 4.6 PHASE 4: ROOF REPLACEMENT**

Date: 07/22/2022 Final

Floor Area: 20,700 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
A1010	1	<b>TRADE DEMOLITION</b>				
	2					
	3	Demo existing roof as required - allow	29,661	SF	10.00	296,610
	4					
	5	<b>TRADE DEMOLITION</b>				296,610
	6					
B1020	7					
	50	<b>ROOF CONSTRUCTION</b>				
	51					
	52	Seismic upgrade to roof as required	29,661	SF	45.00	1,334,745
	53					
	54	<b>ROOF CONSTRUCTION</b>				1,334,745
	55					
B3010	80					
	81	<b>ROOF COVERINGS</b>				
	82					
	83	New membrane roofing system with red aggregate	29,661	SF	30.00	889,830
	84	Protection board	29,661	SF	8.00	237,288
	85	Rigid insulation	29,661	SF	10.00	296,610
	86	Sheetmetal and flashing including parapet cap	29,661	SF	25.00	741,525
	87	Caulking and sealants	29,661	SF	5.00	148,305
	88					
		89	<b>ROOF COVERINGS</b>			
	90					
B3020	91					
	92	<b>ROOF OPENINGS</b>				
	93					
	94	New skylight	240	SF	550.00	132,000
	95					
	96	<b>ROOF OPENINGS</b>				132,000
	97					
D1010	134					
	135	<b>ELEVATORS &amp; LIFTS</b>				
	136	See Phase 2				
	137					
	138	<b>ELEVATORS &amp; LIFTS</b>				
	139					

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.6 PHASE 4: ROOF REPLACEMENT**

Date: 07/22/2022 Final

Floor Area: 20,700 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
D1520	153	<b>PLUMBING</b>				
	154					
	155	Roof drains/overflow drains, scuppers and drainage system	29,661	SF	5.00	148,305
	156					
	157	<b>PLUMBING</b>				148,305
	158					

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
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 4.7 PHASE 5: SEISMIC IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 0 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
5.2.1	1	<b>CHIMNEY SEPERATION</b>				
	2	Terminate connection between chimney and masonry wall above 2nd floor				
	3	Terminate connection - allow	320	SF	75.00	24,000
	4	Reinforced effected area as required - allow	320	SF	150.00	48,000
	5	New connection between main roof diaphragm and chimney - allow	15	TN	10,500.00	157,500
	6	Miscellaneous metals and rough carpentry - allow	1	LS	90,000.00	90,000
	7	Patch and repair as required - allow	1	LS	35,000.00	35,000
	8					
	9	<b>Total Direct Cost</b>				<b>354,500</b>
	10					
	11	<b>ADD MARKUPS (CUMULATIVE)</b>				
	12	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	%	354,500.00	70,900
	13	MARKET FACTOR	5.0%	%	425,400.00	21,270
	14	OVERHEAD AND PROFIT	10.0%	%	446,670.00	44,667
	15	BONDING AND INSURANCE	2.5%	%	491,337.00	12,283
	16	DESIGN CONTINGENCY	30.0%	%	503,620.43	151,086
	17	<b>BASE CONSTRUCTION COST (Unescalated)</b>			<b>654,706.55</b>	
	18	ESCALATION - PHASE 5	32.6%	%	213,657.00	69,725
	19	<b>BASE CONSTRUCTION COST (Escalated)</b>			<b>724,431.32</b>	<b>0</b>
	20					
	21	<b>CHIMNEY SEPERATION</b>				<b>724,431</b>
22						
5.2.2A	23	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET</b>				
	24	<b>SHOTCRETE/DOWELS</b>				
	25	Remove existing shotcrete layer, protect existing rebar dowels to existing masonry wall in place - allow	16,610	SF	12.50	207,625
	26	Reinforced effected area as required - allow	16,610	SF	15.00	249,150
	27	Anchor new reinforcing into existing grade beam - allow	302	LF	500.00	151,000
	28	Foundation rework - allow	1	LS	150,000.00	150,000
	29	New shotcrete wall	16,610	SF	45.00	747,450
	30	Miscellaneous metals and rough carpentry - allow	1	LS	300,000.00	300,000
	31	Patch and repair as required - allow	1	LS	150,000.00	150,000
	32					
	33	<b>Total Direct Cost</b>				<b>1,955,225</b>
	34					
	35	<b>ADD MARKUPS (CUMULATIVE)</b>				
	36	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	%	1,955,225.00	391,045
	37	MARKET FACTOR	5.0%	%	2,346,270.00	117,314
	38	OVERHEAD AND PROFIT	10.0%	%	2,463,583.50	246,358
	39	BONDING AND INSURANCE	2.5%	%	2,709,941.85	67,749
	40	DESIGN CONTINGENCY	30.0%	%	2,777,690.40	833,307
	41	<b>BASE CONSTRUCTION COST (Unescalated)</b>			<b>3,610,997.52</b>	
	42	ESCALATION - PHASE 5	32.6%	%	1,178,412.00	384,563
	43	<b>BASE CONSTRUCTION COST (Escalated)</b>			<b>3,995,560.17</b>	<b>0</b>
	44					
	45	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET</b>				<b>3,995,560</b>

**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
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4.7 PHASE 5: SEISMIC IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area:

0 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
	46					
5.2.2B	47	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET</b>				
	48	<b>FIBER WRAPS</b>				
	49	Apply fiber wrap (fiber reinforced polymer) on the interior surface of existing shotcrete walls - allow for (2) layers both horizontally and vertically	16,610	SF	180.00	2,989,800
	50	Attach to existing grade beam as required - allow	302	LF	500.00	151,000
	51	Foundation rework - allow	1	LS	150,000.00	150,000
	52	Miscellaneous metals and rough carpentry - allow	1	LS	100,000.00	100,000
	53	Patch and repair as required - allow	1	LS	150,000.00	150,000
	54					
	55	<b>Total Direct Cost</b>				<b>3,540,800</b>
	56					
	57	<b>ADD MARKUPS (CUMULATIVE)</b>				
	58	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	%	3,540,800.00	708,160
	59	MARKET FACTOR	5.0%	%	4,248,960.00	212,448
	60	OVERHEAD AND PROFIT	10.0%	%	4,461,408.00	446,141
	61	BONDING AND INSURANCE	2.5%	%	4,907,548.80	122,689
	62	DESIGN CONTINGENCY	30.0%	%	5,030,237.52	1,509,071
	63	<b>BASE CONSTRUCTION COST (Unescalated)</b>			<b>6,539,308.78</b>	
	64	ESCALATION - PHASE 5	32.6%	%	2,134,036.00	696,421
	65	<b>BASE CONSTRUCTION COST (Escalated)</b>			<b>7,235,729.50</b>	<b>0</b>
	66					
	67	<b>SOUTH AND EAST WALLS ALONG WASHINGTON/MASON STREET</b>				<b>7,235,730</b>
	68					
5.2.3	69	<b>CONCRETE MASONRY UNIT WALL AT GRID LINE G</b>				
	70					
	71	New shear wall from grade beam to 2M floor	900	SF	1,500.00	1,350,000
	72	Foundation rework - allow	1	LS	50,000.00	50,000
	73	Miscellaneous metals and rough carpentry - allow	1	LS	250,000.00	250,000
	74	Patch and repair as required - allow	1	LS	45,000.00	45,000
	75					
	76	<b>Total Direct Cost</b>				<b>1,695,000</b>
	77					
	78	<b>ADD MARKUPS (CUMULATIVE)</b>				
	79	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	%	1,695,000.00	339,000
	80	MARKET FACTOR	5.0%	%	2,034,000.00	101,700
	81	OVERHEAD AND PROFIT	10.0%	%	2,135,700.00	213,570
	82	BONDING AND INSURANCE	2.5%	%	2,349,270.00	58,732
	83	DESIGN CONTINGENCY	30.0%	%	2,408,001.75	722,401
	84	<b>BASE CONSTRUCTION COST (Unescalated)</b>			<b>3,130,402.28</b>	
	85	ESCALATION - PHASE 5	32.6%	%	1,021,575.00	333,381
	86	<b>BASE CONSTRUCTION COST (Escalated)</b>			<b>3,463,782.78</b>	<b>0</b>
	87					
	88	<b>CONCRETE MASONRY UNIT WALL AT GRID LINE G</b>				<b>3,463,783</b>
	89					

**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
(AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
BASED ON FINAL MASTERPLAN DOCUMENTS  
4.7 PHASE 5: SEISMIC IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 0 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
5.2.4	90	<b>ADDING NEW SEISMIC FORCE AT GRID LINES E</b>				
	91					
	92	New shear wall from grade beam to 2M floor	600	SF	1,500.00	900,000
	93	Foundation rework - allow	1	LS	50,000.00	50,000
	94	Miscellaneous metals and rough carpentry - allow	1	LS	150,000.00	150,000
	95	Protect existing passenger elevator as required - allow	1	LS	7,500.00	7,500
	96	Patch and repair as required - allow	1	LS	45,000.00	45,000
	97					
	98	<b>Total Direct Cost</b>				<b>1,152,500</b>
	99					
	100	<b>ADD MARKUPS (CUMULATIVE)</b>				
	101	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	%	1,152,500.00	230,500
	102	MARKET FACTOR	5.0%	%	1,383,000.00	69,150
	103	OVERHEAD AND PROFIT	10.0%	%	1,452,150.00	145,215
104	BONDING AND INSURANCE	2.5%	%	1,597,365.00	39,934	
105	DESIGN CONTINGENCY	30.0%	%	1,637,299.13	491,190	
106	<b>BASE CONSTRUCTION COST (Unescalated)</b>			<b>2,128,488.86</b>		
107	ESCALATION - PHASE 5	32.6%	%	694,610.00	226,679	
108	<b>BASE CONSTRUCTION COST (Escalated)</b>			<b>2,355,167.70</b>	<b>0</b>	
109						
110	<b>ADDING NEW SEISMIC FORCE AT GRID LINES E</b>				<b>2,355,168</b>	
111						
5.2.5	112	<b>MAIN ROOF DIAPHRAGM</b>				
	113					
	114	Upgrade existing diagonal bracing member and adding new diagonal bracing to enhance diaphragm capacity as required - allow	11,600	SF	55.00	638,000
	115	Miscellaneous metals and rough carpentry - allow	1	LS	150,000.00	150,000
	116	Foundation rework - allow	1	LS	50,000.00	50,000
	117	Patch and repair as required - allow	11,600	SF	15.00	174,000
	118					
	119	<b>Total Direct Cost</b>				<b>1,012,000</b>
	120					
	121	<b>ADD MARKUPS (CUMULATIVE)</b>				
	122	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	%	1,012,000.00	202,400
	123	MARKET FACTOR	5.0%	%	1,214,400.00	60,720
	124	OVERHEAD AND PROFIT	10.0%	%	1,275,120.00	127,512
	125	BONDING AND INSURANCE	2.5%	%	1,402,632.00	35,066
126	DESIGN CONTINGENCY	30.0%	%	1,437,697.80	431,309	
127	<b>BASE CONSTRUCTION COST (Unescalated)</b>			<b>1,869,007.14</b>		
128	ESCALATION - PHASE 5	32.6%	%	609,931.00	199,045	
129	<b>BASE CONSTRUCTION COST (Escalated)</b>			<b>2,068,051.86</b>	<b>0</b>	
130						
131	<b>MAIN ROOF DIAPHRAGM</b>				<b>2,068,052</b>	
132						

**SAN FRANCISCO CABLE CAR BARN  
ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
(AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
BASED ON FINAL MASTERPLAN DOCUMENTS  
4.7 PHASE 5: SEISMIC IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area:

0 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
5.2.6	133	<b>OTHER ADDED ELEMENTS FOR SEISIMC FORCE</b>				
	134	East Wall of North Exit Stair				
	135	Add diagonal bracing elements from floor 2M to foundation between existing columns	900	SF	125.00	112,500
	136	Miscellaneous metals and rough carpentry - allow	1	LS	50,000.00	50,000
	137	Patch and repair as required - allow	1	LS	25,000.00	25,000
	138	Expansion Joint Separation at Roof Structure				
	139	Add collector for transferring seismic force in west portion of roof to CMU wall below - allow	10	LF	3,500.00	35,000
	140	Add collector for transferring seismic force in north-west portion of roof to CMU wall below - allow	20	LF	3,500.00	70,000
	141	Miscellaneous metals and rough carpentry - allow	1	LS	35,000.00	35,000
	142	Patch and repair as required - allow	1	LS	25,000.00	25,000
	143	Foundation rework - allow	1	LS	50,000.00	50,000
	144					
	145	<b>Total Direct Cost</b>				<b>402,500</b>
	146					
	147	<b>ADD MARKUPS (CUMULATIVE)</b>				
	148	GENERAL CONDITIONS AND REQUIREMENTS	20.0%	%	402,500.00	80,500
	149	MARKET FACTOR	5.0%	%	483,000.00	24,150
	150	OVERHEAD AND PROFIT	10.0%	%	507,150.00	50,715
	151	BONDING AND INSURANCE	2.5%	%	557,865.00	13,947
	152	DESIGN CONTINGENCY	30.0%	%	571,811.63	171,543
	153	<b>BASE CONSTRUCTION COST (Unescalated)</b>			<b>743,355.11</b>	
	154	ESCALATION - PHASE 5	32.6%	%	242,586.00	79,165
	155	<b>BASE CONSTRUCTION COST (Escalated)</b>			<b>822,520.56</b>	<b>0</b>
	156					
	157	<b>OTHER ADDED ELEMENTS FOR SEISIMC FORCE</b>				<b>822,521</b>
	158					

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.8 EXTERIOR IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 15,579 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total	
B2010	1	<b>EXTERIOR WALLS</b>					
	2						
	3						
	4		Clean masonry to remove general soiling, biological growth, efflorescence, and stains	15,579	SF	15.00	233,685
	5		Apply coating to masonry	15,579	SF	10.00	155,790
	6		Replace or repair existing brick as required - allow for 30% replacement	15,579	SF	65.00	1,012,635
	7		Replace deteriorated joints as required	15,579	SF	25.00	389,475
	8		Repair or replace metal parapet coping as required - see Phase 4	15,579	SF	0.00	0
	9		Install new joint sealant at base of building	584	LF	75.00	43,800
	10		Repair leaking pipes at East Elevation as required - allow	1	LS	25,000.00	25,000
	11		Exterior railings - clean, refinish and/or paint existing	100	LF	500.00	50,000
	12		Scaffolding	15,579	SF	5.00	77,895
	13						
	14		<b>EXTERIOR WALLS</b>				1,988,280
15							
B2020	16	<b>EXTERIOR WINDOWS</b>					
	17						
	18						
	19		Repair existing windows are required - replace cracked glass, replace missing or damaged hardware, clean, adjust or lubricate all sashes, paint all windows	3,350	SF	350.00	1,172,500
	20		Repair existing clerestory windows are required - clean, adjust or lubricate all sashes, install new sealants, paint all windows	510	SF	200.00	102,000
	21						
	22		<b>EXTERIOR WINDOWS</b>				1,274,500
23							
24							

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.8 EXTERIOR IMPROVEMENTS**

Date: 07/22/2022 Final

Floor Area: 15,579 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
<b>B2030</b>	25	<b>EXTERIOR DOORS</b>				
	26					
	27	Refurbish all exterior doors as required - clean, adjust, or lubricate, install new sealants, paint or refinish	10	EA	25,000.00	250,000
	28					
	29	<b>EXTERIOR DOORS</b>				250,000
<b>B3010</b>	30					
	31					
	32	<b>ROOF COVERINGS</b>				
	33					
	34	New membrane roofing - see Phase 4				
<b>B3020</b>	35					
	36	<b>ROOF COVERINGS</b>				
	37					
	38					
	39	<b>ROOF OPENINGS</b>				
<b>B3020</b>	40					
	41	Clean and refinish all existing skylight frames and replace all joint sealants	7,030	SF	150.00	1,054,500
	42					
	43	<b>ROOF OPENINGS</b>				1,054,500

**SAN FRANCISCO CABLE CAR BARN  
 ROM ESTIMATE OF PROBABLE CONSTRUCTION COST  
 (AN OPINION OF PROBABLE CONSTRUCTION COSTS)  
 BASED ON FINAL MASTERPLAN DOCUMENTS  
 4.9 WINDING MOTORS**

Date: 07/22/2022 Final

Floor Area: 846 GSF

Elem.	#	Description	Quantity	Unit	Unit Cost	Total
D5010	161	<b>ELECTRICAL DISTRIBUTION</b>				
	162					
	163	Main normal power				
	164	Machine and equipment power				
	165	Winding Motors	4	EA	150,000.00	600,000
	166	Isolation transformers	4	EA	120,000.00	480,000
	167	Feeder conduit and wire	800	LF	350.00	280,000
	168					
	169	User convenience power				
	170	Receptacles				Existing
	171					
	172	Trade demolition				
	173	Remove existing winding motors/transformers	480	HR	205.00	98,400
	174	Temporary power	1	WK	10,000.00	10,000
	175					
	176	Miscellaneous electrical				
	177	Project requirements, project management, detailing, coordination, etc	1	LS	264,312.00	264,312
178						
179	<b>ELECTRICAL DISTRIBUTION</b>				1,732,712	
192						

# M LEE CORPORATION

Construction Management & Consulting  
Estimating & Scheduling  
Since 1992

## M Lee Corporation

M Lee Corporation was established in the San Francisco Bay Area in 1992 to provide quality construction cost estimating, scheduling and construction, program and project management support services. Since its incorporation, M Lee Corporation have provided professional construction services for over 1,400 projects with an estimated value of over \$40 billion, spanning all services and disciplines, scopes and sizes. Having worked in the San Francisco Bay Area over the last 29 years, our knowledge of the local construction market has proved to be a valuable asset to our clients.

## Key Professionals

### Martin Lee

Founding principal and chief estimator of M Lee Corporation, Martin is a professional civil engineer (PE), chartered quantity surveyor (CQS), and certified professional estimator (CPE)-Lifetime by ASPE with over 35 years of practical experience in construction cost management and consulting services in the San Francisco Bay Area. Prior to establishing M Lee Corporation, Martin gained extensive experience working with a renowned general contractor/construction management firm and an international cost consulting firm. Working on over 1,400 projects with an estimated construction value of over \$40 billion, Martin is knowledgeable of local construction practice and pricing. He enjoys and excels in construction cost and schedule management.

### Franklin Lee

Principal and project manager/senior cost estimator of M Lee Corporation, Franklin is a professional civil engineer (PE), LEED accredited professional and certified estimating professional (CEP) by AACE. Franklin holds a B.S. in Civil and Environmental Engineering from University of California, Berkeley and a M.S. in Construction Engineering and Management from Stanford University. Prior to joining M Lee Corporation Franklin worked for a nationally renowned general contractor/construction management firm. Franklin has provided cost estimating, scheduling and project management services on over 500

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