



COMPASS
INTERNATIONAL INC.

2024 REPAIR & MAINTENANCE COSTS



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DIVISION 0:

Introduction and Calibration Factors, includes the following:

General introduction and retrofit and repair considerations.

Location (Calibration) Factors - International values compared to Washington D.C. (Base of 1.00). Calibrations in this application are used to adjust the unit prices / schedule of rates depicted in the following Divisions 1 – 17.

188 # International Cities Location / Calibration Factors.

General Conversion Values - Imperial to Metric Units.

Import Duties General Sales Tax / Value. Added Tax / Consumption Tax.

284 # USA Location (Calibration) Factors.

Detailed Design / Engineering / Architectural and CM Fees 51 # Facility Types.

Union Labor Costs.

USA and Canada State & Province Sales Tax / GST.

Inflation Cost Indexes.

(16) Calibration Tables

Examples

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DIVISION 00:

Cost Models / Cost Benchmarks (26 Number)

includes cost and quantity data on the following:

Retrofit – Upgrade Isotope / Radiation – Chemo Therapy Formulation Suite.

Retrofit and upgrade 333 # Apartments.

UK (Scotland) Facility - Refurbish existing laboratory in existing manufacturing campus.

Major Construction Activities.

Estimating Assessment Sheet.

Petro – Chemical Cost Model.

High Rise Apartment Building Cost Model.

Beverage / Candy Production Facility Cost Model.

Consumer Products Facility.

Crude Oil Distillation Complex.

EPCM Home Office Billing Rate Sheet

Power Station Cost Model.

Steel Production Cost Model.

Waste Water Treatment Cost Model.
78 # Engineering / Construction Cost Benchmarks.
Class A Office Building
UK Pharmaceutical Facility
Vaccine Facility Expansion and Modification
Food and Beverage Production Facilities
Refurbishment of Shopping Center
Revamp of Shale Gas Facility
Pet Food Production Facility
Office Admin. Building
Rural Highway and Bridge Upgrade
EV Facility
USDA Meat Processing Facility

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DIVISION 01:

General Requirements / General Conditions / Preliminaries:
includes cost data on the following:

Rules of thumb
Insurance Costs
Protection of Completed Work
Scaffolding
Temporary Utilities, Structures & Fences
Permits
Testing / Inspection
Surveys
Bonds
Site Staff / Field Personnel
Construction Equipment Costs / Rental
Temporary Construction Items

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DIVISION 02:

Site Construction: includes schedule of rates for:

Demolition (including asbestos)
Excavation
Rock removal
Hardcore / Stone
Shoring
Planking & Strutting / Sheet Piling
Foundation Piling
Utilities
Miscellaneous Site Improvements

Paving
Concrete Curbing
Fencing
Site Lighting
Marine Work
Underground Storage Tanks

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DIVISION 03

Concrete Work: includes schedule of rates for:

Concrete
Formwork
Reinforcement
Precast Concrete
Grouting

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DIVISION 04

Masonry: includes schedule of rates for:

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Masonry
Refractory

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DIVISION 05

Metals: includes schedule of rates for:

Structural Steel
Metal Joists
Metal Framing
Miscellaneous Iron
Metal Decking

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DIVISION 06

Wood and Plastics: includes schedule of rates for:

Rough Carpentry
Finish Carpentry
Carpentry Specialties

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DIVISION 07

Thermal and Moisture Protection: includes schedule of rates for:

Damp proofing and Waterproofing
Thermal Protection
Roofing Systems
Caulking & Sealants

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DIVISION 08

Doors and Windows: includes schedule of rates for:

Wood and Plastic Doors
Metal Doors and Frames
Windows
Glazing / Glazed Curtain Walls
Hardware

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DIVISION 09

Finishes: includes schedule of rates for:

Plaster and Gypsum Board
Tile
Terrazzo
Ceilings
Flooring
Wall Finishes
Acoustical Treatment
Painting and Coatings
Other items

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DIVISION 10

Specialties: includes schedule of rates for:

Visual Display Boards
Compartments and Cubicles
Louvers and Vents
Wall and Corner Guards
Miscellaneous Facility Specialties

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- 315 DIVISION 11**
Equipment: includes schedule of rates for:
Maintenance Equipment
Loading Dock Equipment
Industrial and Process Equipment
Laboratory Equipment
Material Handling Equipment

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- 333 DIVISION 12**
Furnishings: includes schedule of rates for:
Furniture
Manufactured Casework

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- 341 DIVISION 13**
Special Construction: includes schedule of rates for:
Pre-Engineered Buildings & Structures
Radiation Protection
Storage Tanks
Security Access and Surveillance

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- 355 DIVISION 14**
Conveying Systems: includes schedule of rates for:
Elevators
Escalators and Moving Walks
Hoists and Cranes

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DIVISION 15

Mechanical Work: includes schedule of rates for:

Building Services Piping

Plumbing Fixtures

Process Piping

Fire Protection Piping

Heating, Ventilating & Air Conditioning Equipment

Ductwork

Insulation

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DIVISION 16

Electrical Work: includes schedule of rates for:

Electrical Equipment / Transformers

Cable / Control wire

Conduit

Cable tray

Communications

Instrumentation and Controls

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DIVISION 17

Process Equipment / Major Equipment: includes schedule of rates for:

Agitators

Air Handlers

Boilers

Chillers

Compressors

Condensers

Conveyors

Cooling Towers

Ductwork

Heat Exchangers

Pumps

Tanks

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ABOUT THE FIRM

UNION LABOR COSTS:

The charge / bill out rates are in the right hand column “A”; these rates have been calibrated to Washington D.C. For other locations, use the city location factors previously indicated.

Note these values should be calibrated with the previous location factors to determine the charge out rate for each specific location. Typical uplift 60 – 95% (used 85% - “A”). Table # 7

- Total Fringe Benefits (Vacation, holidays, sick pay, and employer paid FICA / Unemployment rates, BRI) is average 15 - 30% of base wage.
- Supervision is average 5 - 10% of base wage.
- Workers Compensation Insurance is average 15 - 20% of base wage.
- Overhead and Home Office Support 15 – 20%.
- Profit is average 10 - 15% of base wage.
- Excludes small tools, typically 2 – 6% of total all in rate.
- Excludes construction equipment / fueling and maintenance.
- Excludes general conditions / Division 1 / Preliminaries (trailers and scaffold etc,) / Excludes consumables (gases, rags and grease).

TRADE	BASE WAGE	“A” ALL-IN RATE
Bricklayer	58.71	108.35
Carpenter	56.90	105.22
Electrician	67.51	124.68
Laborer, General 4	2.07	77.89
Operating Engineer, General	59.45	109.83
Painter, General	51.45	95.30
Plumber / Pipe fitter	67.73	124.94
Roofer	51.06	94.71
Sheet Metal Worker, General	66.76	123.01
Structural Iron Worker	64.14	118.44
AVERAGE RATE	58.58	108.24

USA & CANADA STATE AND PROVINCE SALES TAX / GST: TABLE # 8

Sales tax on materials is indicated below. Typically

labor is not taxed. Some businesses may be able to obtain sales tax / exemption forms (certificate) that allow them to claim the sales tax back from the specific state. Additionally, local authority / townships / counties may levy additional taxes such as business and operating taxes, city payroll tax, etc.

STATE	TAX (%)
Alabama	4
Alaska	0
Arizona	5.6
Arkansas	6.50
California	7.25
Colorado	2.9
Connecticut	6.35
Delaware	0
District of Columbia	6
Florida	6
Georgia	4
Hawaii	4
Idaho	6
Illinois	6.25
Indiana	7
Iowa	6
Kansas	6.5
Kentucky	6
Louisiana	4.45
Maine	5.5
Maryland	6
Massachusetts	6.25
Michigan	6
Minnesota	6.875
Mississippi	7
Missouri	4.225
Montana	0
Nebraska	5.5
Nevada	6.85
New Hampshire	0
New Jersey	6.625
New Mexico	5.125
New York	4
North Carolina	4.75
North Dakota	5
Ohio	5.75
Oklahoma	4.5

Cost Models and Cost Benchmarks

The following tables and benchmarks are provided to give the reader an appreciation of specific industrial / commercial retrofit and new construction costs that could be used to supplement the following Division(s) 1 – 17, schedule of rates data.

(1) RETROFIT – UPGRADE ISOTOPE / RADIATION – CHEMO THERAPY FORMULATION SUITE

utilizing existing facility / utilities and some production equipment from another mothballed R&D, production facility.

- Cost(s) are based on 2010 4th Q.
- Facility located in Pennsylvania, existing building 18 years old.
- Existing production, R&D equipment relocated from North Carolina facility.
- Detailed design effort took 15 weeks.
- Construction work took 30 weeks, 40 hour work week utilizing union labor.
- Owner engineering costs excluded.
- Packing and transportation costs of existing equipment from North Carolina excluded.
- Excludes validation costs.

Table 1

CSI #	DESCRIPTION	SF	UNIT \$ COST	TOTAL \$ COST VALUE	REMARKS
1	General Conditions / Preliminaries	2,650	38.07	100,873	Trailers (1 # for construction manager and 2 # trailers for 6 -8 Owner R&D staff during retro-fit program), storage shed, testing, dumpsters, dust and noise partitions, temporary utilities.
2	Site Work	2,650	41.34	109,560	Demo 2000 SF ceilings and flooring. Ditto CMU walls 2,350 SF. Remove doors 10 # and 180' fume hoods / casework. Remove lead lined walls and existing MEP services.
3	Concrete	2,650	0.93	2,458	Concrete patching, core drilling, housekeeping pads pitching floor new floor drains.
4	Masonry	2,650	1.57	4,150	Cut out doors in CMU Patching new door openings 680 SF CMU walls.
5	Metals	2,650	6.37	16,870	Metals brackets angles and new lintels.
6	Carpentry	2,650	2.43	6,430	Blocking framing for new lab benches / casework roof curbs.
7	Thermal Protection	2,650	11.11	29,450	Fire stopping, cutting patching roof for new penetrations, and roofing to curbs.
8	Doors / Windows	2,650	13.62	36,105	8 # new doors 3 # Double door hardware and frames.

#	STAFFING DESCRIPTION / CLASSIFICATION	MINIMUM MAN-HOUR HOURLY / RATE IN US \$	MINIMUM DAY RATE IN US \$	MAXIMUM MAN-HOUR HOURLY / RATE IN US \$	MAXIMUM DAY RATE IN US \$
CONTINUED					
10	Field Manager / Agent	\$172	\$1,374	\$220	\$1,760
11	Lead Estimator	\$163	\$1,307	\$204	\$1,633
12	Estimator	\$150	\$1,202	\$191	\$1,526
13	Junior Estimator	\$86	\$687	\$130	\$1,037
14	Lead Planner	\$163	\$1,307	\$198	\$1,584
15	Planner	\$150	\$1,202	\$191	\$1,526
16	Junior Planner	\$86	\$687	\$130	\$1,037
17	Lead Cost Engineer	\$163	\$1,307	\$198	\$1,584
18	Cost Engineer / Cost Analyst	\$143	\$1,145	\$183	\$1,467
19	Senior Quantity Surveyor	\$163	\$1,307	\$198	\$1,584
20	Junior Quantity Surveyor	\$70	\$563	\$130	\$1,037
21	Lead QA / QC Engineer	\$157	\$1,260	\$198	\$1,584
22	QA / QC Engineer	\$135	\$1,078	\$183	\$1,467
23	QA / QC Auditor - Inspector	\$115	\$916	\$137	\$1,095
24	Lead Procurement / Contracts Manager	\$157	\$1,260	\$204	\$1,633
25	Deputy Procurement / Contracts Manager	\$143	\$1,145	\$191	\$1,526
26	Contracts Engineer - S/C Coordinator	\$143	\$1,145	\$191	\$1,526
27	Procurement Team Member	\$122	\$973	\$166	\$1,330
28	Expeditor / Trafficking Coordinator	\$115	\$916	\$137	\$1,095
29	Warehouse Materials Coordinator	\$78	\$620	\$137	\$1,095
30	Vendor Inspector (Equipment)	\$109	\$868	\$166	\$1,330
31	Contracts Administrator	\$94	\$754	\$144	\$1,154
32	Lead Designer	\$122	\$973	\$174	\$1,389
33	Designer / CAD Operator	\$86	\$687	\$144	\$1,154
34	Document Control Manager	\$122	\$973	\$174	\$1,389
35	Document Control Team Member	\$78	\$620	\$130	\$1,037
36	Secretary / Administrator	\$57	\$458	\$98	\$782
37	Home Office Construction Manager	\$150	\$1,202	\$204	\$1,633
38	Project Accountant	\$122	\$973	\$166	\$1,330
39	Accounts Payable Clerk	\$70	\$563	\$130	\$1,037
40	H O Safety & Health Manager	\$122	\$973	\$183	\$1,467
41	Commissioning / Start Up Engineer	\$150	\$1,202	\$191	\$1,526
42	IT Network Administrator	\$135	\$1,078	\$183	\$1,467
43	General Field Superintendent	\$157	\$1,260	\$204	\$1,633
44	Area Superintendent	\$143	\$1,145	\$191	\$1,526
45	General Forman	\$143	\$1,145	\$183	\$1,467
* (Civil / Structural / Architectural, Process, Mechanical / Rotating Equipment, Building Services, Piping, Electrical, Instrumentation and various specialist engineers)					

	2024 - Division 4 - Masonry - Union Site	Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
11	Rake out mortar joint to external brickwork, powerwash and re-point (Minimum)	SF	0.54	4.74	0.61	5.89	0.63	6.01	0.77	7.42
12	Sandblasting and powerwash to external brickwall (Maximum)	SF	0.53	2.06	0.13	2.72	0.61	2.61	0.17	3.39
13	Sandblasting and powerwash to external brickwall (Minimum)	SF	0.38	1.37	0.09	1.84	0.45	1.74	0.11	2.30
14	Galv diamond pattern steel lathing fixed to block or brickwork, including 2 coat scratch coat screed and 3/8" brick pattern veneer (Maximum)	SF	8.23	10.04	1.50	19.77	9.59	12.74	1.90	24.23
15	Galv diamond pattern steel lathing fixed to block or brickwork, including 2 coat scratch coat screed and 3/8" brick pattern veneer (Minimum)	SF	5.17	7.82	1.00	13.98	6.02	9.92	1.27	17.21
16	Common Brick purchase price for 1,000 d/d to site	1,000				490 - 560				490 - 560
17	Facing Brick purchase price for 1,000 d/d to site	1,000				615 - 765				615 - 765
18	Concrete solid block, 8" x 16" x 4" wide, back up application (material only, no mortar or waste)	EACH				2.94				2.94
19	Ditto 6" wide	EACH				3.35				3.35
20	Ditto 8" wide	EACH				3.93				3.93
21	Ditto 10" wide	EACH				5.31				5.31
22	Ditto 12" wide	EACH				5.51				5.51
23	Concrete solid block, 8" x 16" x 6" wide, in foundations (material only, no mortar or waste)	EACH				3.73				3.73
24	Ditto 8" wide	EACH				4.34				4.34
25	Ditto 10" wide	EACH				5.84				5.84
26	Ditto 12" wide	EACH				6.12				6.12
27	Concrete solid block (heavy duty - high strength), 8" x 16" x 6" wide, in foundations (material only, no mortar or waste)	EACH				4.27				4.27

2024 Division 9 - Finishes: Union		Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
Retrofit & Repair Work Items										
1	Cut out damaged 3/8" thick gypsum board and replace on walls screwed / nailed to timber - tapped and skimmed	SF	0.54	1.21	0.18	1.93	0.62	1.53	0.23	2.38
2	Ditto 1/2"	SF	0.62	1.21	0.18	2.01	0.71	1.53	0.23	2.48
3	Ditto 5/8"	SF	0.68	1.33	0.20	2.21	0.78	1.68	0.25	2.72
4	Cut out damaged 3/8" thick gypsum board and replace on ceilings screwed / nailed to timber - tapped and skimmed	SF	0.54	1.36	0.20	2.10	0.62	1.72	0.26	2.60
5	Ditto 1/2"	SF	0.62	1.36	0.20	2.18	0.71	1.72	0.26	2.69
6	Ditto 5/8"	SF	0.68	1.47	0.22	2.38	0.78	1.87	0.28	2.93
7	Cut of existing quarry tile 4" x 4" x 1/2" thick on 1/2" thick mud set base to walls and replace with new	SF	9.94	14.31	1.16	25.41	11.36	18.16	1.48	30.99
8	Ditto 6" x 6" ditto	SF	8.27	13.39	1.09	22.74	9.45	16.99	1.38	27.82
9	Cut out existing quarry tile 4" x 4" x 3/4" thick on 1/2" thick mud set base for floors and replace with new	SF	11.68	15.66	1.27	28.61	13.35	19.88	1.62	34.84
10	Ditto 6" x 6" ditto	SF	9.72	14.99	1.22	25.92	11.10	19.02	1.55	31.67
11	Remove existing 3" high 3/4" thick bullnose base / edge board and replace with new	LF	11.63	16.07	1.31	29.01	13.29	20.39	1.66	35.34
12	Ditto acid resistance clay glazed bricks with 1/2" acid proof bed cement / sand bedding material	SF	18.01	16.66	1.36	36.02	20.58	21.15	1.72	43.45
13	Ditto 3/4" thick terrazzo pre cast floor tile on 1/2" thick mud base	SF	37.89	53.14	4.32	95.35	43.30	67.45	5.49	116.24
14	Ditto 4" high bullnose base / edge board	LF	17.52	25.28	2.06	44.85	20.02	32.08	2.61	54.72
15	Ditto 1" thick terrazzo pre cast floor tile on 3/4" thick mud base	SF	41.96	56.02	4.56	102.53	47.96	71.10	5.78	124.84

2024 Division 12 - Furnishings: Union	Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
12 Cupboard / cabinet metal - open library shelving 72" high x 18" wide	LF	118.33	34.19	1.66	154.19	133.17	44.39	2.16	179.71
13 Cupboard / cabinet metal - wardrobe - 48" wide x 84" high x 30" deep c/w 2 # doors	EA	770.67	89.76	4.36	864.79	867.28	116.53	5.66	989.47
14 Cupboard / cabinet wood / Formica faced, 30" high base x 24" wide - with door and 1 shelf	LF	218.46	68.39	3.32	290.17	245.84	88.78	4.31	338.94
15 Cupboard / cabinet wood attached to wall 30" high x 18" deep with glass doors & 3 shelves	LF	263.97	85.48	4.15	353.60	297.06	110.98	5.39	413.43
16 Curtain rods 1" dia - polished metal	LF	11.83	25.64	1.70	39.18	13.32	33.29	2.20	48.81
17 Curtain rods 1" dia - stained wood	LF	14.26	25.64	1.70	41.60	16.05	33.29	2.20	51.55
18 Design drafting table (Maximum)	EACH	1,454.02	37.56	1.16	1,492.73	1,636.29	48.76	1.51	1,686.55
19 Design drafting table (Maximum)	EACH	845.70	29.21	0.90	875.82	951.72	37.92	1.17	990.81
20 Drapes / curtains (Maximum)	SF	11.37	6.89	0.40	18.65	12.79	8.94	0.51	22.24
21 Drapes / curtains (Minimum)	SF	4.87	5.22	0.30	10.38	5.48	6.77	0.39	12.64
22 Floor mat aluminum frame T section 1 1/2" high x 3/4" wide	LF	9.53	5.98	0.34	15.85	10.72	7.76	0.45	18.92
23 Floor mat bronze finish frame T section 1 1/2" high x 3/4" wide	LF	6.71	5.12	0.29	12.12	7.55	6.65	0.38	14.58
24 Floor mat, 1" thick hemp - rope / links matting	SF	36.28	6.83	0.39	43.50	40.83	8.87	0.51	50.21
25 Floor mat, 1/2" thick black rubber in-layed	SF	41.77	5.98	0.34	48.09	47.01	7.76	0.45	55.21

2024 Division 14 - Conveying Systems:		Unit	Factor # 1 Material Upift M+5 (1.05)	Factor # 1 Labor Upift L+30 (1.30)	Factor # 1 CE Upift	Total Factor # 1	Factor # 2 Material Upift M+20 (1.20)	Factor # 2 Labor Upift L+65 (1.65)	Factor # 2 CE Upift	Total Factor # 2
13	Airport baggage carousel 20' diameter (Minimum)	EACH	43,101	20,373	1,457	64,930	53,753	35,489	2,584	91,826
14	Airport baggage carousel 30' diameter (Maximum)	EACH	93,202	37,266	2,664	133,132	116,202	64,918	4,726	185,846
15	Airport baggage carousel 30' diameter (Minimum)	EACH	61,573	27,103	1,938	90,613	76,790	47,213	3,437	127,440
16	Airport baggage system 36" wide (Maximum)	LF	1,018	440	31.49	1,489.73	1,267	767	55.85	2,090.10
17	Airport baggage system 36" wide (Minimum)	LF	676	271	19.38	966.16	845	472	34.37	1,351.19
18	Airport baggage system 60' long x 24' wide (Maximum)	EACH	130,502	43,880	3,137	177,519	163,179	76,439	5,565	245,182
19	Airport baggage system 60' long x 24' wide (Minimum)	EACH	92,121	30,490	2,180	124,792	115,185	53,115	3,867	172,167
20	Airport horizontal moving walkway 48" wide - complete system including glass side wall (Maximum)	LF	2,248	1,779	112	4,139	2,784	3,098	199	6,081
21	Airport horizontal moving walkway 48" wide - complete system including glass side wall (Minimum)	LF	1,770	1,287	81	3,139	2,208	2,243	144	4,594
22	Airport horizontal moving walkway 60" wide - complete system including glass side wall (Maximum)	LF	2,771	2,117	134	5,022	3,456	3,689	237	7,381
23	Airport horizontal moving walkway 60" wide - complete system including glass side wall (Minimum)	LF	2,217	1,491	94	3,802	2,764	2,597	167	5,528

2024 Division 16 - Electrical:	Union	Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
	Emergency generator 50 kw ditto	EACH	44,041.81	10,347.92	669.91	55,059.63	54,384.04	13,133.89	850.27	68,368.20
307	Emergency generator 50 kw ditto	EACH								
308	Emergency generator 100 kw ditto	EACH	64,263.00	14,223.31	920.79	79,407.11	79,353.72	18,052.67	1,168.70	98,575.09
309	Emergency generator 250 kw ditto	EACH	105,788.14	22,319.04	1,444.90	129,552.07	130,630.10	28,328.01	1,833.91	160,792.02
310	Emergency generator 500 kw ditto	EACH	180,703.11	36,522.06	2,364.38	219,589.55	223,137.18	46,354.92	3,000.94	272,493.04
311	Emergency generator 1,000 kw ditto	EACH	318,927.92	42,677.63	2,762.88	364,368.44	393,820.98	54,167.76	3,506.73	451,495.48
312	Combination starter unit - Size # 1	EACH	1,404.66	933.34	52.37	2,390.36	1,734.51	1,184.63	66.47	2,985.60
313	Ditto Size # 2	EACH	1,741.19	1,339.14	75.13	3,155.46	2,150.07	1,699.68	95.36	3,945.11
314	Ditto Size # 3	EACH	2,355.72	2,211.61	124.09	4,691.42	2,908.91	2,807.05	157.49	5,873.46
315	Ditto Size # 4	EACH	4,272.49	3,530.47	198.08	8,001.04	5,275.79	4,480.98	251.41	10,008.18
316	Ditto Size # 5	EACH	8,574.25	5,660.92	317.61	14,552.79	10,587.72	7,185.01	403.13	18,175.86
	Cable									
317	15 kv copper 1/C # 2 - shielded	LF	5.92	3.37	0.19	9.47	7.30	4.28	0.24	11.82
318	15 kv copper 1/C 1/0 - shielded	LF	6.29	4.25	0.24	10.77	7.76	5.39	0.30	13.45
319	15 kv copper 1/C 2/0 - shielded	LF	9.06	4.83	0.27	14.16	11.19	6.13	0.34	17.66
320	15 kv copper 1/C 4/0 - shielded	LF	11.09	6.44	0.36	17.90	13.70	8.18	0.46	22.33
321	15 kv copper 1/C 250 MCM - shielded	LF	14.79	7.03	0.39	22.21	18.26	8.92	0.50	27.68
322	15 kv copper 1/C 350 MCM - shielded	LF	15.34	8.79	0.49	24.62	18.95	11.15	0.63	30.73
323	15 kv copper 1/C 500 MCM - shielded	LF	18.49	10.25	0.58	29.31	22.83	13.01	0.73	36.57
324	15 kv copper 1/C 750 MCM - shielded	LF	31.43	11.72	0.66	43.80	38.81	14.87	0.83	54.51
325	5 kv copper 1/C # 6	LF	4.33	1.52	0.09	5.93	5.34	1.93	0.11	7.38
326	5 kv copper 1/C # 4	LF	4.47	1.94	0.11	6.52	5.53	2.46	0.14	8.12
327	5 kv copper 1/C # 2	LF	4.86	2.77	0.16	7.78	6.00	3.51	0.20	9.71
328	5 kv copper 1/C # 1	LF	5.61	3.18	0.18	8.97	6.93	4.04	0.23	11.19
329	5 kv copper 1/C 1/0	LF	6.31	3.73	0.21	10.25	7.79	4.74	0.27	12.80
330	5 kv copper 1/C 2/0	LF	7.15	4.15	0.23	11.53	8.83	5.27	0.30	14.39

2024 Division 17 - Major Equipment:		Unit	Factor # 1 Material Uplift M+5 (1.05)	Factor # 1 Labor Uplift L+30 (1.30)	Factor # 1 CE Uplift	Total Factor # 1	Factor # 2 Material Uplift M+20 (1.20)	Factor # 2 Labor Uplift L+65 (1.65)	Factor # 2 CE Uplift	Total Factor # 2
34	Agitator - including shaft / propeller / motor - side entry C.S. 5 HP (Minimum)	EACH	8,200.55	823.26	52.10	9,075.91	9,407.31	1,014.20	64.19	10,485.70
35	Agitator - including shaft / propeller / motor - side entry C.S. 10 HP (Maximum)	EACH	13,277.08	1,332.90	84.36	14,694.34	15,230.89	1,642.04	103.92	16,976.85
36	Agitator - including shaft / propeller / motor - side entry C.S. 10 HP (Minimum)	EACH	11,715.07	1,176.09	74.43	12,965.59	13,439.02	1,448.86	91.69	14,979.57
37	Agitator - including shaft / propeller / motor - side entry C.S. 25 HP (Maximum)	EACH	20,390.83	2,047.05	129.55	22,567.43	23,391.46	2,521.83	159.60	26,072.89
38	Agitator - including shaft / propeller / motor - side entry C.S. 25 HP (Minimum)	EACH	16,912.14	1,697.82	107.45	18,717.42	19,400.87	2,091.61	132.37	21,624.85
39	Agitator - including shaft / propeller / motor - side entry C.S. 50 HP (Maximum)	EACH	29,140.92	2,925.48	185.15	32,251.55	33,429.19	3,604.00	228.09	37,261.27
40	Agitator - including shaft / propeller / motor - side entry C.S. 50 HP (Minimum)	EACH	26,636.62	2,623.14	169.24	29,429.00	30,556.37	3,231.53	208.49	33,996.38
41	Add 22.5% for Stainless steel applications to C.S. values indicated above	%								
Air Handlers										
42	Air handler 2,500 CFM vertical - horizontal fan c/w vibration isolators	EACH	6,949.64	413.46	24.01	7,387.11	7,972.32	509.36	29.58	8,511.25
43	Air handler 5,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	12,965.83	770.18	44.72	13,780.73	14,873.83	948.81	55.09	15,877.73
44	Air handler 7,500 CFM vertical - horizontal fan c/w vibration isolators	EACH	16,167.05	891.78	51.78	17,110.62	18,546.13	1,098.62	63.79	19,708.54
45	Air handler 10,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	18,522.61	972.85	56.49	19,551.96	21,248.33	1,198.49	69.59	22,516.41
46	Air handler 15,000 CFM vertical - horizontal fan c/w vibration isolators	EACH	25,955.89	1,175.53	68.26	27,199.68	29,775.46	1,448.18	84.09	31,307.72