



VII ABOUT THE FIRM

0

1 DIVISION 0

Introduction and Calibration Factors: includes the following:
 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.

00

27 DIVISION 00

Cost Models / Cost Benchmarks (17 Number) includes cost and quantity data on the following:
 Power Station Cost Model.
 Crude Oil Distillation Complex.
 High Rise Apartment Building Cost Model.
 Waste Water Treatment Cost Model.
 EPCM Home Office Billing Rate Sheet.
 Consumer Products Facility.
 Steel Production Cost Model.
 Beverage Production Facility Cost Model.
 Petro – Chemical Cost Model.
 78 # Engineering / Construction Cost Benchmarks.
 Class A Office Building
 UK Pharmaceutical Facility
 Clean Warehouse
 Regional Airport
 Shopping Mall

01

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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

02

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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

03

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DIVISION 03

Concrete Work: includes schedule of rates for:

Concrete
Formwork
Reinforcement
Precast Concrete
Grouting

04

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DIVISION 04

Masonry: includes schedule of rates for:

Brickwork
Masonry
Refractory

05

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DIVISION 05

Metals: includes schedule of rates for:

Structural Steel
Metal Joists
Metal Framing
Miscellaneous Iron
Metal Decking

06

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DIVISION 06

Wood and Plastics: includes schedule of rates for:

Rough Carpentry
Finish Carpentry
Carpentry Specialties

07

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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

08

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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

09

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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

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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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- 207** **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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- 219** **DIVISION 12**
Furnishings: includes schedule of rates for:
Furniture
Manufactured Casework

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- 223** **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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- 231** **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

Location (Calibration) Factors

INTERNATIONAL VALUES COMPARED TO WASHINGTON D.C. (BASE OF 1.00)

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
1	Afghanistan		0.91 - 0.96	0.75 - 0.85
2	Albania		0.89 - 0.93	0.84 - 0.88
3	Algeria		0.90 - 0.95	0.85 - 0.88
4	Angola		0.92 - 0.97	0.70 - 0.78
5	Argentina		0.92 - 0.95	0.86 - 0.91
6	Armenia		0.90 - 0.94	0.85 - 0.88
7	Australia	Melbourne	1.02	0.98
	Australia	Perth	1.03	0.99
	Australia	Sydney	1.03	0.99
8	Austria		1.04	1.00
9	Azerbaijan		0.92 - 0.97	0.84 - 0.89
10	Bahrain		0.92 - 0.95	0.84 - 0.88
11	Bangladesh		0.90 - 0.92	0.65 - 0.75
12	Belarus		0.93 - 0.96	0.85 - 0.90
13	Belgium		1.01 - 1.04	0.96 - 0.99
14	Belize		0.91 - 0.95	0.83 - 0.89
15	Benin		0.90 - 0.95	0.67 - 0.79
16	Bhutan		0.90 - 0.95	0.71 - 0.81
17	Bolivia		0.90 - 0.94	0.76 - 0.86
18	Bosnia		0.90 - 0.95	0.80 - 0.86
19	Botswana		0.90 - 0.95	0.67 - 0.78
20	Brasil		0.88 - 0.96	0.79 - 0.89
21	Bulgaria		0.90 - 0.95	0.80 - 0.85
22	Burkina Faso		0.88 - 0.95	0.67 - 0.77
23	Burundi		0.88 - 0.95	0.67 - 0.78
24	Cambodia		0.84 - 0.94	0.67 - 0.77
25	Cameroon		0.90 - 0.95	0.70 - 0.78
26	Canada	Calgary AL	1.05 - 1.10	1.00 - 1.06
	Canada	Charlottetown PEI	0.96 - 0.99	0.93
	Canada	Edmonton AL	1.04 - 1.13	1.00 - 1.05
	Canada	Fort McMurray AL	1.40 - 1.55	1.07 - 1.13
	Canada	Halifax NS	0.96 - 0.99	0.93
	Canada	Hamilton ONT	0.95 - 0.98	0.93
	Canada	Laval QUE	0.95 - 0.97	0.92
	Canada	Lethbridge AL	0.97 - 0.99	0.93 - 0.96
	Canada	London ONT	0.95 - 0.98	0.93
	Canada	Moncton NB	0.94 - 0.97	0.92 - 0.94
	Canada	Montreal QUE	0.96 - 0.98	0.95
	Canada	Quebec City QUE	0.96 - 0.98	0.93 - 0.96
	Canada	Regina SASK	0.96 - 0.98	0.93 - 0.95
	Canada	Sarnia ONT	0.95 - 0.98	0.93
	Canada	St Johns NFL	0.96 - 0.98	0.92 - 0.94
	Canada	Toronto ONT	0.97 - 0.99	0.94 - 0.96
	Canada	Whitehorse YUK	0.98 - 1.00	0.95 - 0.97
	Canada	Winnipeg MAN	0.95 - 0.97	0.92 - 0.94

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
CONTINUED				
	Canada	Windsor ONT	0.95 - 0.98	0.93
	Canada	Vancouver BC	1.00 - 1.03	0.98 - 1.01
	Canada	Victoria BC	0.97 - 1.00	0.95 - 0.97
27	Central African Republic		0.90 - 0.94	0.67 - 0.77
28	Chad		0.89 - 0.93	0.70 - 0.77
29	Chile		0.91 - 0.95	0.86 - 0.92
30	China	Beijing	0.90 - 0.95	0.80 - 0.85
	China	Chengdu	0.88 - 0.93	0.80 - 0.85
	China	Harbin	0.88 - 0.93	0.80 - 0.85
	China	Guangzhou	0.90 - 0.95	0.85 - 0.90
	China	Shanghai	0.90 - 0.95	0.85 - 0.90
31	Colombia		0.90 - 0.93	0.83 - 0.87
32	Congo Democratic Republic		0.90 - 0.94	0.67 - 0.77
33	Costa Rica		0.92 - 0.94	0.85 - 0.89
34	Cote D' Ivory		0.90 - 0.93	0.67 - 0.78
35	Croatia		0.90 - 0.95	0.86 - 0.89
36	Cuba		0.92 - 0.94	0.73 - 0.85
37	Cyprus		0.92 - 0.94	0.87 - 0.89
38	Czech Republic		0.89 - 0.93	0.87 - 0.89
39	Denmark		1.05 - 1.09	1.02 - 1.04
40	Dominican Republic		0.92 - 0.95	0.75 - 0.85
41	Ecuador		0.91 - 0.94	0.78 - 0.89
42	Egypt		0.86 - 0.94	0.83 - 0.87
43	El Salvador		0.92 - 0.94	0.82 - 0.88
44	Eritrea		0.88 - 0.93	0.67 - 0.77
45	Estonia		0.90 - 0.94	0.85 - 0.90
46	Ethiopia		0.89 - 0.93	0.67 - 0.77
47	Finland		1.06 - 1.10	1.02 - 1.05
48	France	Bordeaux	0.97 - 1.02	0.95
	France	Lyon	0.97 - 1.03	0.95
	France	Marseille / Fos	0.97 - 1.01	0.95
	France	Nice	0.98 - 1.02	0.96
	France	Paris	1.00 - 1.05	0.96 - 0.98
49	Gabon		0.89 - 0.94	0.67 - 0.77
50	Gambia (The)		0.89 - 0.93	0.67 - 0.77
51	Georgia		0.92 - 0.95	0.70 - 0.80
52	Germany	Berlin	1.01 - 1.04	0.96 - 0.98
	Germany	Hamburg	1.01 - 1.04	0.96 - 0.98
	Germany	Munich	1.02 - 1.05	0.98 - 1.00
53	Ghana		0.89 - 0.94	0.67 - 0.77
54	Greece		0.91 - 0.93	0.87 - 0.89
55	Guatemala		0.91 - 0.94	0.79 - 0.89
56	Guinea - Bissau		0.90 - 0.93	0.66 - 0.77
57	Guinea		0.88 - 0.92	0.66 - 0.77
58	Guyana		0.85 - 0.94	0.68 - 0.78
59	Haiti		0.87 - 0.93	0.65 - 0.77

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
CONTINUED				
60	Honduras		0.90 - 0.93	0.79 - 0.89
61	Hong Kong		0.90 - 0.93	0.87 - 0.89
62	Hungary		0.88 - 0.92	0.86
63	India		0.85 - 0.92	0.80 - 0.85
64	Indonesia		0.75 - 0.86	0.72 - 0.74
65	Iran		0.87 - 0.93	0.68 - 0.77
66	Iraq		0.88 - 0.96	0.72 - 0.78
67	Ireland	Cork	0.95 - 1.02	0.92 - 0.96
	Ireland	Dublin	0.95 - 1.03	0.97
	Ireland	Galway	0.95 - 1.00	0.92 - 0.96
68	Israel		0.92 - 0.94	0.90
69	Italy	Bari	0.93 - 0.96	0.89 - 0.91
	Italy	Milan	0.94 - 0.99	0.91 - 0.93
	Italy	Rome	0.94 - 0.98	0.91 - 0.93
70	Jamaica		0.89 - 0.93	0.82 - 0.87
71	Japan	Osaka	1.05 - 1.07	1.02 - 1.04
	Japan	Tokyo	1.06 - 1.11	1.04 - 1.06
	Japan	Yokohama	1.05 - 1.07	1.03 - 1.05
72	Jordan		0.88 - 0.92	0.83 - 0.87
73	Kazakhstan		0.89 - 0.96	0.80 - 0.87
74	Kenya		0.90 - 0.95	0.67 - 0.80
75	Kyrgyzstan		0.90 - 0.93	0.82 - 0.88
76	Kuwait		0.92 - 0.97	0.90 - 0.92
77	Laos		0.83 - 0.94	0.67 - 0.77
78	Latvia		0.92 - 0.95	0.86 - 0.90
79	Lebanon		0.90 - 0.95	0.85 - 0.89
80	Libya		0.91 - 0.94	0.85 - 0.88
81	Lithuania		0.91 - 0.96	0.87 - 0.90
82	Madagascar		0.88 - 0.94	0.66 - 0.77
83	Malawi		0.89 - 0.93	0.66 - 0.77
84	Malaysia		0.83 - 0.92	0.80 - 0.84
85	Mali		0.87 - 0.94	0.66 - 0.77
86	Malta		0.90 - 0.95	0.85 - 0.90
87	Mexico		0.84 - 0.92	0.79 - 0.84
88	Mongolia		0.89 - 0.93	0.71 - 0.86
89	Morocco		0.89 - 0.95	0.84 - 0.88
90	Mozambique		0.88 - 0.94	0.67 - 0.77
91	Myanmar		0.85 - 0.93	0.65 - 0.75
92	Namibia		0.88 - 0.94	0.65 - 0.77
93	Nepal		0.89 - 0.94	0.69 - 0.81
94	Netherlands The		1.00 - 1.05	0.97 - 0.99
95	New Zealand		1.01 - 1.04	0.98
96	Nicaragua		0.89 - 0.94	0.79 - 0.89
97	Niger		0.88 - 0.93	0.67 - 0.77
98	Nigeria		0.93 - 0.98	0.80 - 0.86
99	Norway Bergen		1.10 - 1.16	1.05

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
CONTINUED				
	Norway	Oslo	1.12 - 1.17	1.06
	Norway	Stavanger	1.10 - 1.16	1.05
100	Oman		0.93 - 0.98	0.90
101	Panama		0.89 - 0.93	0.79 - 0.87
102	Pakistan		0.87 - 0.93	0.72 - 0.78
103	Paraguay		0.89 - 0.94	0.79 - 0.88
104	Peru		0.89 - 0.95	0.79 - 0.89
105	Philippines		0.86 - 0.93	0.72 - 0.80
106	Poland		0.91 - 0.94	0.91
107	Portugal		0.89 - 0.93	0.91
108	Romania		0.89 - 0.94	0.87
109	Russia	Moscow	0.94 - 0.97	0.90 - 0.93
	Russia	Nizhnyi Novgorod	0.92 - 0.95	0.89 - 0.92
	Russia	St Petersburg	0.92 - 0.96	0.89 - 0.92
	Russia	Vladivostok	0.92 - 0.96	0.89 - 0.92
110	Rwanda		0.88 - 0.93	0.66 - 0.77
111	Saudi Arabia		0.93 - 0.98	0.88 - 0.92
112	Senegal		0.88 - 0.94	0.68 - 0.78
113	Singapore		0.90 - 0.95	0.82 - 0.87
114	South Africa		0.92 - 0.95	0.80 - 0.88
115	South Korea		0.92 - 0.96	0.88 - 0.92
116	Spain		0.92 - 0.94	0.89 - 0.92
117	Sri Lanka		0.78 - 0.89	0.65 - 0.75
118	Sudan		0.88 - 0.95	0.67 - 0.79
119	Sweden		1.07 - 1.13	1.04 - 1.07
120	Switzerland		1.07 - 1.14	1.05 - 1.07
121	Syria		0.91 - 0.95	0.87 - 0.89
122	Tajikistan		0.89 - 0.94	0.83 - 0.90
123	Taiwan		0.90 - 0.94	0.87
124	Thailand		0.85 - 0.93	0.71 - 0.80
125	Togo		0.89 - 0.94	0.67 - 0.77
126	Tunisia		0.89 - 0.95	0.83 - 0.88
127	Turkey		0.89 - 0.94	0.88 - 0.92
128	U A E		0.93 - 0.98	0.90
129	Uganda		0.90 - 0.95	0.65 - 0.80
130	Ukraine		0.91 - 0.95	0.85 - 0.89
131	United Kingdom	Birmingham	1.03 - 1.06	0.99 - 1.02
	United Kingdom	Cambridge	1.03 - 1.07	0.99 - 1.03
	United Kingdom	Edinburgh	1.03 - 1.06	0.98 - 1.03
	United Kingdom	Liverpool / Speke	1.02 - 1.05	0.98 - 1.02
	United Kingdom	London	1.06 - 1.11	1.01 - 1.04
	United Kingdom	Manchester	1.03 - 1.07	0.99 - 1.03
	United Kingdom	Oxford	1.03 - 1.07	0.99 - 1.03
132	United States	Washington DC Benchmarked Value	1.00	0.96
133	Uruguay		0.93 - 0.95	0.86 - 0.91

#	COUNTRY	CITY	LOCATION FACTOR A	LOCATION FACTOR B
CONTINUED				
134	Uzbekistan		0.93 - 0.96	0.84 - 0.89
135	Venezuela		0.93 - 0.96	0.82 - 0.90
136	Vietnam		0.86 - 0.90	0.75 - 0.85
137	Yemen		0.89 - 0.95	0.79 - 0.88
138	Zambia		0.88 - 0.94	0.70 - 0.80
139	Zimbabwe		0.87 - 0.93	0.70 - 0.80

Note: consider using an average of A and B above for a 5 Star Hotel / Resort or for a state of the art airport control tower.

General Conversion Values

IMPERIAL TO METRIC UNITS

CONVERSION FACTOR	CONVERSION FACTOR
1 Acre = 4,047 M2	1 Hectare = 2.471 Acres
1 Foot = 30.48 Centimeters	1 Kilogram = 2.205 Pounds
1 Foot = 0.3048 Meters	1 Gallon = 3,785 Cubic Centimeters
1 Meter = 39.37 inches	1 Imperial Gallon = 1.20095 US Gallons
1 Meter = 1.094 Yards	1 Liter = 0.264 Gallons
1 Cubic Yard = 0.765 M3:	1 Square Foot = 0.0929 M2
1 M3 = 1.31 Cubic Yards:	1 Mile = 1.609 Kilometers
1 M = 3.28 Lineal Feet:	1 Square Kilometer = 247 Acres
1 M2 = 10.76 Square Feet:	1 Square Yard = 0.836 M2
1 Yard = 0.9144 M	1 Horse Power = 2,546 BTU per hour
1 Inch = 2.54 Centimeters	1 Square inch = 6.452 square centimeters
1 Pound = 0.454 kilograms	1 liter = 61.02 cubic inches
1 Meter per minute = 3.28 feet per minute	1 Meter per second = 3.28 feet per second
1 Cubic meter = 35.31 cubic feet	1 Cubic meter = 61,023 cubic inches

REF	DESCRIPTION	RANGE	COST OF FACILITY	COST OF ACTIVITY	COMMENTS
CONTINUED					
68	Operator training	0.5%– 2.5% of M.E.			On complex process facilities use 1.5% – 3.75% of M.E. cost
69	Owner Engineering (PM/ Engineering / CM)	3% - 6% of TIC			
70	Construction Equipment	10% - 25% of Labor cost (direct hire plus S.C labor)			
71	Rail spurs, roads, footpaths and fences	5% - 10% of M.E. cost.			
72	Pre-Commissioning	0.80% - 1.80% of M.E. plus bulk materials.			
73	Project Insurance (Umbrella)	0.65% - 1.30% of Construction costs			Exclude detailed design, procurement, CM and fees from the calculation.
74	Small tools cost per direct field man-hour specific to North American projects	\$0.75 - \$1.95			
75	Consumables cost per direct field man-hour specific to North American projects	\$2.65 – \$5.75			
76	G&A % as a % of total project cost specific to North American projects	4.85% - 8.75%			
78	Project Fee % as a % of total project cost specific to North American projects	4.55% - 7.50%			
79	Cost of temp facilities per direct field construction hour on North American projects	\$0.45 - \$0.70			
80	Cost of field supervision (Superintendent & non working foreman) on North American projects	15% - 22.50%			
81	Per Diem hourly cost paid to Field Supervisors working away from home base specific to North American projects	\$5.50 - \$11.50			
82	Per Diem / travel hourly cost paid to Field Workers working away from home base specific to North American projects	\$3.50 - \$8.50			

REF	DESCRIPTION	RANGE	COST OF FACILITY	COST OF ACTIVITY	COMMENTS
CONTINUED					
83	Construction equipment cost per direct field man-hour specific to North American projects	\$5.75 - \$10.85			
84	Third party inspection services	0.75% – 2.25% of M.E. plus bulk materials			
85	Construction Manager Fee	1.00 – 2.35% of Direct cost (Pass thru cost)			
86	Construction Manager General Liability Insurance (Public Liability insurance & Property Damage Insurance)	0.66 – 1.15% of Direct cost (Pass thru cost)			
87	Construction Manager (Staff / Hourly Rate)	\$125 - \$195			

(13) CLASS A OFFICE / ADMIN BUILDING HARRISBURG, PENNSYLVANIA, USA CLASS A - OFFICE / ADMIN BUILDING ON 9.5 ACRE LOT -

Merit Shop construction (combination of union & non union contractors) Space for 1,250 - 1,450 office workers, 4 Floors and penthouse including partial basement, parking space for 800 cars / vans - 135 underground

CSI #	DESCRIPTION	SF	\$ PER SF	TOTAL \$ COST	L/M % SPLIT*	%
1	General Conditions / Preliminaries	205,600	18.55	3,813,880	55-45	9.41%
2.1	Site preparation	205,600	1.97	405,032	35-65	1.00%
2.2	Site improvements / general excavation, drainage & fill	205,600	6.44	1,324,064	35-65	3.27%
2.3	Site Mechanical utilities	205,600	6.77	1,391,912	55-45	3.43%
2.4	Site electrical utilities including o/s lighting	205,600	5.65	1,161,640	60-40	2.87%
2.5	Site roads, parking lot & pathways	205,600	3.34	686,704	60-40	1.69%
2.6	Landscaping, irrigation & plantings	205,600	1.73	355,688	55-45	0.88%
2.7	Trash enclosure & pad	205,600	0.21	43,176	40-60	0.11%
3.1	Concrete foundations	205,600	6.76	1,389,856	45-55	3.43%
3.2	Concrete basement & walls	205,600	2.53	520,168	45-55	1.28%
3.3	Concrete ground floor	205,600	2.59	532,504	50-50	1.31%
3.4	Concrete elevated floors	205,600	3.78	777,168	50-50	1.92%
3.5	Concrete miscellaneous	205,600	0.65	133,640	60-40	0.33%
4.1	Masonry external walls	205,600	3.62	744,272	55-45	1.84%
4.2	Masonry internal walls	205,600	0.59	121,304	55-45	0.30%
5.1	Structural steel framing	205,600	15.84	3,256,704	25-75	8.04%
5.2	Metal decking	205,600	3.66	752,496	20-80	1.86%

CSI #	DESCRIPTION	SF	\$ PER SF	TOTAL \$ COST	L/M % SPLIT*	%
CONTINUED						
5.3	Metal stairs	205,600	0.75	154,200	20-80	0.38%
5.4	Miscellaneous Metals	205,600	1.76	361,856	20-80	0.89%
6.1	Rough carpentry	205,600	1.63	335,128	40-60	0.83%
6.2	Finish / Architectural carpentry	205,600	0.77	158,312	40-60	0.39%
6.3	Plastic moldings	205,600	0.38	78,128	45-55	0.19%
7.1	Waterproofing	205,600	1.22	250,832	40-60	0.62%
7.2	Insulation to walls and ceiling	205,600	0.89	182,984	40-60	0.45%
7.3	Membrane Roofing system	205,600	3.55	729,880	30-70	1.80%
7.4	Flashing, gutters and downspouts	205,600	0.69	141,864	35-65	0.35%
7.5	Caulking and fireproofing	205,600	0.69	141,864	60-40	0.35%
7.6	Roof pads, screens and walkways	205,600	0.39	80,184	35-65	0.20%
8.1	External Doors & hardware	205,600	0.42	86,352	30-70	0.21%
8.2	External Window / glazing system	205,600	4.97	1,021,832	35-65	2.52%
8.3	Internal Doors & hardware	205,600	3.37	692,872	35-65	1.71%
8.4	Skylights	205,600	0.17	34,952	30-70	0.09%
9.1	Internal ceilings & grids	205,600	1.48	304,288	35-65	0.75%
9.2	Internal floor systems (carpet, epoxy & tile)	205,600	1.77	363,912	25-75	0.90%
9.3	Internal plasterboard walls	205,600	6.33	1,301,448	30-70	3.21%
9.4	Internal painting	205,600	0.89	182,984	70-30	0.45%
9.5	External painting	205,600	0.56	115,136	70-30	0.28%
10.1	Specialties (louvers, display boards, corner guards)	205,600	0.29	59,624	35-65	0.15%
10.2	Toilet compartments, lockers, flag poles, trash collection skips	205,600	0.24	49,344	35-65	0.12%
10.3	Receptionist desk, lobby furniture & lobby fountain	205,600	0.19	39,064	30-70	0.10%
11	Equipment - Mac / cash machine newsstand & coffee shop area	205,600	0.17	34,952	20-80	0.09%
12	Furnishings, coffee shop furniture & conference room tables & seating	205,600	0.16	32,896	25-75	0.08%
13	Special Construction. Card readers and CCTV monitors basement parking gates	205,600	0.38	78,128	25-75	0.19%
14	Elevators 2 +1 10 - 15 person hydraulic including drill casing	205,600	0.72	148,032	20-80	0.37%
15.1	Fire Protection	205,600	2.59	532,504	45-55	1.31%
15.2	Plumbing & fixtures	205,600	9.95	2,045,720	40-60	5.05%
15.3	Boilers, Chillers HVAC / Duct work	205,600	14.48	2,977,088	35-65	7.35%
16.1	Electric power / receptacles	205,600	4.85	997,160	40-60	2.46%
16.2	Lighting	205,600	3.98	818,288	40-60	2.02%
16.3	Communications / Telephone Hi-Speed spine	205,600	0.66	135,696	40-60	0.33%
16.4	Building Mgmt System	205,600	0.41	84,296	35-65	0.21%
	S/T		156.43	32,162,008		

CSI #	DESCRIPTION	SF	\$ PER SF	TOTAL \$ COST	L/M % SPLIT*	%
CONTINUED						
17.1	Contractors O/H fee 4.85% and Profit 6.85% = 11.7% General Conditions included with Preliminaries	205,600	18.30	3,762,955		9.29%
	S/T		174.73	35,924,963		
	All Architectural - Structural / MEP Engineering Design fees 7.35% including minor consultants	205,600	12.84	2,640,485		6.52%
	CM services and fee 5.45%	205,600	9.52	1,957,910		4.83%
	TOTAL COST	205,600	197.10	40,523,358		100.00%
* Construction Equipment of between 5% - 8% is included in Labor %						

(14) UK DEVELOPMENT / RESEARCH MANUFACTURING LAB & PRODUCTION FACILITY 3 STORY
153,470 SF / 14,263 M2 R&D LAB 39,700 SF MANUFACTURING 72,560 SF WAREHOUSE 18,850 SF ADMIN 12,750 SF UTILITIES 9,610 SF

UK – Midlands: 2010 Cost Basis expressed in Pounds Sterling (GBP) - 375 R&D staff & Production Workers (60 - 315 split). office workers, 4 Floors and penthouse including partial basement, parking space for 800 cars / vans - 135 underground

DESCRIPTION	SF	M2	GBP MATERIAL	GBP LABOUR	GBP L+M TOTAL	GBP SF TOTAL	%
Preliminaries	153,470	14,263	12.36	8.64	21.00	3,222,870	5.88%
Demolition / removals	153,470	14,263	0.82	1.21	2.03	312,056	0.57%
External Site works / Parking / Roads 6.75 Acre	153,470	14,263	8.09	3.96	12.05	1,849,825	3.37%
Incoming utilities (CUB)	153,470	14,263	12.97	7.55	20.52	3,149,204	5.74%
Substructure / foundations	153,470	14,263	9.38	7.97	17.35	2,663,216	4.86%
Concrete SOG / elevated	153,470	14,263	8.27	6.69	14.95	2,294,888	4.19%
Structural steel / decking	153,470	14,263	7.37	2.11	9.48	1,454,896	2.65%
External wall / windows	153,470	14,263	16.08	4.05	20.13	3,089,863	5.64%
Roof	153,470	14,263	2.43	1.71	4.14	635,366	1.16%
Internal walls	153,470	14,263	8.97	2.95	11.91	1,828,339	3.34%
Internal doors	153,470	14,263	3.39	1.11	4.50	690,615	1.26%
Internal ceilings including walk on ceilings	153,470	14,263	8.42	3.06	11.48	1,761,836	3.21%

	2017 Division 1 - General Requirements / Preliminaries - Union Site	Unit	Material	Labor	Construction Equipment	Total
107	15 CY Dump Truck	HOUR		Excl Oper	112.36	112.36
108	2 Ton Flatbed dump truck, 15' bed	HOUR		Excl Oper	18.11	18.11
109	30 Ton Stone Drum Crusher	HOUR		Excl Oper	14.22	14.22
110	7.50 Ton Dump Truck	HOUR		Excl Oper	32.64	32.64
111	50 Ton per hour portable Asphalt plant	HOUR		Excl Oper	55.44	55.44
112	100 Ton per hour portable Asphalt plant	HOUR		Excl Oper	76.91	76.91
113	150 Ton per hour portable Asphalt plant	HOUR		Excl Oper	89.81	89.81
114	25 Ton Hydraulic crane with 75' boom	HOUR		Excl Oper	60.24	60.24
115	50 Ton Hydraulic crane with 90' boom	HOUR		Excl Oper	97.92	97.92
116	0.50 CY Concrete self propelled buggy	HOUR		Excl Oper	4.21	4.21
117	Air Compressor, 60 CFM	HOUR		Excl Oper	14.39	14.39
118	Air Compressor 250 CFM, shop unit, gasoline	HOUR		Excl Oper	23.65	23.65
119	Air Compressor, 300 CFM	HOUR		Excl Oper	28.48	28.48
120	Air Compressor, 350 CFM	HOUR		Excl Oper	32.36	32.36
121	Air Compressor, 450 CFM	HOUR		Excl Oper	39.49	39.49
122	Air Compressor, 600 CFM	HOUR		Excl Oper	45.13	45.13
123	Air Compressor, 750 CFM	HOUR		Excl Oper	50.98	50.98
124	Air Compressor, 1,000 CFM	HOUR		Excl Oper	50.98	50.98
125	Air hoses 1" dia 100'	HOUR		Excl Oper	6.75	6.75
126	Asphalt batch plant 250 ton / hour, gasoline	HOUR		Excl Oper	264.55	264.55
127	Asphalt kettle / seal coater for road work, 250 gallon, propane, towed unit.	HOUR		Excl Oper	11.49	11.49
128	Asphalt truck spreader / profiler, 500 ton, 12' wide 4" - 10" application	HOUR		Excl Oper	213.38	213.38
129	Auger horizontal 10" - 24" dia 35 HP gasoline	HOUR		Excl Oper	25.14	25.14
130	Auger horizontal 18" - 30" dia 50 HP gasoline	HOUR		Excl Oper	34.94	34.94

	2017 Division 1 - General Requirements / Preliminaries - Union Site	Unit	Material	Labor	Construction Equipment	Total
131	Auger vertical drill, 6" - 8" diameter, n/e 200' total depth	HOUR		Excl Oper	63.35	63.35
132	Backhoe / JCB 0.50 CY	HOUR		Excl Oper	98.01	98.01
133	Backhoe / JCB 1 CY	HOUR		Excl Oper	152.03	152.03
134	Backhoe Kubota 20 HP	HOUR		Excl Oper	27.54	27.54
135	Barge 250 Ton & 100 HP 3 man pusher boat	HOUR		Excl Oper	79.13	79.13
136	Barge 500 Ton ditto	HOUR		Excl Oper	88.73	88.73
137	Belt stone / soil loader, 20' x 48" wide 2 - 1 slope, gasoline	HOUR		Excl Oper	13.65	13.65
138	Belt stone / soil loader, 36' x 24" wide 2 - 1 slope 300 TPH, gasoline	HOUR		Excl Oper	15.32	15.32
139	Belt loader bin feeder / hopper 25 Ton	HOUR		Excl Oper	6.68	6.68
140	Bobcat F E loader 35 HP	HOUR		Excl Oper	27.54	27.54
141	Brush / tree chipper, up to 6" diameter tree, towed unit, gasoline powered	HOUR		Excl Oper	25.60	25.60
142	Bulldozer 80 HP	HOUR		Excl Oper	92.37	92.37
143	Bulldozer 150 HP	HOUR		Excl Oper	206.47	206.47
144	Bulldozer 350 HP	HOUR		Excl Oper	343.78	343.78
145	Centrifugal pump 2", 150 GPM with discharge hose, gasoline / 2-stroke	HOUR		Excl Oper	10.08	10.08
146	Centrifugal pump 4", 250 GPM with discharge hose, gasoline	HOUR		Excl Oper	14.78	14.78
147	Centrifugal pump 6", 350 GPM with discharge hose, gasoline	HOUR		Excl Oper	18.26	18.26
148	Chain trencher 2" - 3" wide to a depth of 3', 15 HP gasoline	HOUR		Excl Oper	10.98	10.98
149	Chain trencher 4" - 6" wide to a depth of 4' 25 HP gasoline	HOUR		Excl Oper	20.80	20.80
150	Chain trencher 6" - 9" wide to a depth of 6' 35 HP gasoline	HOUR		Excl Oper	40.34	40.34
151	Chainsaw 18" gasoline / 2 - stroke	HOUR		Excl Oper	7.93	7.93
152	Chainsaw 30" gasoline / 2 - stoke	HOUR		Excl Oper	10.39	10.39
153	Mulch / Seed / Chip spreader 84" wide, motorized, gasoline	HOUR		Excl Oper	31.64	31.64
154	Mulch / Seed / Chip spreader 84" wide, towed unit	HOUR		Excl Oper	2.63	2.63

	2017 Division 1 - General Requirements / Preliminaries - Union Site	Unit	Material	Labor	Construction Equipment	Total
155	Compactor / rammer / jumper, 18" x 18", gasoline / 2 - stroke	HOUR		Excl Oper	3.15	3.15
156	Concrete Ready - Mix truck 8 CY	HOUR		Excl Oper	80.57	80.57
157	Concrete Ready - Mix truck 10 CY	HOUR		Excl Oper	92.25	92.25
158	Concrete Ready - Mix truck 12 CY	HOUR		Excl Oper	104.00	104.00
159	Concrete Ready - Mix truck 14 CY	HOUR		Excl Oper	115.74	115.74
160	Concrete delivery bucket 0.50 CY	HOUR		Excl Oper	3.80	3.80
161	Concrete delivery bucket 1 CY	HOUR		Excl Oper	4.29	4.29
162	Concrete delivery bucket 1.50 CY	HOUR		Excl Oper	4.64	4.64
163	Concrete delivery bucket 2.50 CY	HOUR		Excl Oper	6.73	6.73
164	Concrete conveyor rubber belt, 16" wide x 36' long, gasoline	HOUR		Excl Oper	109.66	109.66
165	Concrete conveyor rubber belt, 18" wide x 42' long, gasoline	HOUR		Excl Oper	121.62	121.62
166	Concrete finisher 42" 3 blade gasoline / 2 - stroke	HOUR		Excl Oper	4.52	4.52
167	Concrete grinder 24" dia 5 HP gasoline / 2 - stroke	HOUR		Excl Oper	10.16	10.16
168	Concrete / mortar mixer, 5 CF, 5 HP gasoline / 2 - stroke	HOUR		Excl Oper	11.22	11.22
169	Concrete road paver, 20' - 24' wide - 4 - 6" thick, gasoline, crawler type	HOUR		Excl Oper	113.50	113.50
170	Concrete pump 100' reach 4" dia line (60 - 120 CY / hour)	HOUR		Excl Oper	149.74	149.74
171	Concrete pump 120' reach 6" dia line (60 - 120 CY / hour)	HOUR		Excl Oper	170.88	170.88
172	Concrete pump 140' reach 6" dia line (60 - 120 CY / hour)	HOUR		Excl Oper	194.67	194.67
173	Concrete cutting / sawing , self propelled up to 6" deep gasoline / 2 - stroke	HOUR		Excl Oper	9.24	9.24
174	Concrete core drill (1" - 4" dia holes), vertical and horizontal, 25 HP, gasoline	HOUR		Excl Oper	20.48	20.48
175	Crane Crawler 10 Ton	HOUR		Excl Oper	141.46	141.46
176	Crane Crawler 20 Ton	HOUR		Excl Oper	181.97	181.97
177	Crane Crawler 50 Ton	HOUR		Excl Oper	259.03	259.03
178	Crane Crawler 100 Ton	HOUR		Excl Oper	414.93	414.93

	2017 Division 1 - General Requirements / Preliminaries - Union Site	Unit	Material	Labor	Construction Equipment	Total
179	Crane Crawler / dragline - clamshell, 3.5 CY / 3 M3, 120' boom length	HOUR		Excl Oper	150.35	150.35
180	Crane Crawler / dragline - clamshell, 5 CY / 4 M3, 140' boom length	HOUR		Excl Oper	193.76	193.76
181	Crane hydraulic rough terrain 10 Ton - 50' Boom	HOUR		Excl Oper	39.23	39.23
182	Crane hydraulic rough terrain 15 Ton - 60' Boom	HOUR		Excl Oper	40.40	40.40
183	Crane hydraulic rough terrain 20 Ton - 70' Boom	HOUR		Excl Oper	60.19	60.19
184	Crane, crawler, 25 Ton, 70' Boom	HOUR		Excl Oper	41.23	41.23
185	Crane, crawler, 50 Ton, 100' Boom	HOUR		Excl Oper	65.34	65.34
186	Crane, crawler, 100 Ton, 200' Boom	HOUR		Excl Oper	136.07	136.07
187	Crane, crawler, 150 Ton, 250' Boom	HOUR		Excl Oper	338.69	338.69
188	Crusher (stone / rock) plant 100 Ton / hour	HOUR		Excl Oper	100.54	100.54
189	Cutting Torch Tools oxy-acetylene 100' hose	HOUR		Excl Oper	5.34	5.34
190	D-11N crawler / tractor / dozer / ripper	HOUR		Excl Oper	219.59	219.59
191	D-10R crawler / tractor / dozer / ripper	HOUR		Excl Oper	193.76	193.76
192	D-9R - 9N crawler / tractor / dozer / ripper	HOUR		Excl Oper	151.61	151.61
193	D-8R crawler / tractor / dozer / ripper	HOUR		Excl Oper	139.88	139.88
194	D-6R crawler / tractor / dozer / ripper	HOUR		Excl Oper	109.35	109.35
195	D-4GXL crawler / tractor / dozer / ripper	HOUR		Excl Oper	46.84	46.84
196	Dragline bucket 3.5 CY / 3 M3 incl chains & cables	HOUR		Excl Oper	7.77	7.77
197	Dragline bucket 5 CY / 4 M3 incl chains & cables	HOUR		Excl Oper	11.34	11.34
198	Dredge / pontoon 150 Ton Barge 2,500 HP with 2 # 150' - 24" suction lines with self	HOUR		Excl Oper	669.79	669.79
199	Dump Truck - off highway (770) 40 Ton	HOUR		Excl Oper	79.69	79.69
200	Dump Truck - off highway (775F) 70 Ton	HOUR		Excl Oper	158.26	158.26
201	Dump Truck - off highway (777F) 100 Ton	HOUR		Excl Oper	241.29	241.29
202	Dump Truck - highway (770 or equal) 40 Ton	HOUR		Excl Oper	79.69	79.69

	2017 Division 5 - Structural Steel / Metals - Union	Unit	Material	Labor	Construction Equipment	Total
249	Light gauge metal steel framing / boxing out material (Maximum)	TON	3,360	783.00	117.45	4,260
250	Ditto (Minimum)	TON	2,640	421.74	63.26	3,125
251	Light gauge metal steel framing / boxing out material (Maximum)	POUND	1.68	0.39	0.06	2.13
252	Ditto (Minimum)	POUND	1.32	0.21	0.03	1.56
253	Cost to galvanize steel (Maximum)	POUND				0.73
254	Ditto (Minimum)	POUND				0.39
255	Steel A 36 Lintels 3" x 3" x 1/4" thick	LF	1.43	1.81	0.36	3.60
256	3" x 4" x 3/8" thick	LF	2.48	2.04	0.41	4.93
257	4" x 4" x 3/8" thick	LF	2.75	2.42	0.48	5.66
258	6" x 6" x 1/2" thick	LF	5.52	2.82	0.56	8.91
259	Wire Rope 1/4" dia	LF	0.58	0.14	0.02	0.74
260	3/8" dia	LF	0.87	0.14	0.02	1.03
261	1/2" dia	LF	1.45	0.14	0.02	1.61
262	Misc brackets / plates and anchors (Maximum)	POUND	3.53	0.80	0.12	4.45
263	Misc brackets / plates and anchors (Minimum)	POUND	2.33	0.41	0.06	2.80
	Pre-Engineered Buildings (Excludes excavation, concrete, utilities and finishes) Average 17' floor to eave height (typically 10 - 20' high, includes 26 g colored roof and siding)					
264	50' x 40' wide = 2,000 SF	SF	11.34	8.58	5.58	25.50
265	100' x 40' wide = 4,000 SF	SF	11.11	8.24	5.36	24.71
266	100' x 60' wide = 6,000 SF	SF	10.79	7.85	5.10	23.75
267	100' x 100' wide = 10,000 SF	SF	10.28	7.30	4.74	22.32
268	100' x 120' wide = 12,000 SF	SF	9.89	6.97	4.53	21.40
269	200' x 140' wide = 28,000 SF	SF	9.51	6.47	4.21	20.19
270	200' x 160' wide = 32,000 SF	SF	9.19	5.78	3.76	18.73
271	Additional struts / purlins	POUND	1.16	0.56	0.14	1.86
272	Additional structural bents	POUND	1.05	0.53	0.13	1.71
273	3' x 7' door includes, framing, door and door furniture	EACH	853.07	150.48	37.62	1,041.16
274	Ditto double door 10' x 10' high	EACH	2,114.28	292.17	73.04	2,479.50
275	Ditto roller door ditto with motorized closer	EACH	3,236.87	466.63	116.66	3,820.16
276	Interior liner paneling - metal 22 g - colorized	SF	1.73	0.65	0.16	2.54
277	Ditto insulated wall panel 2" thick	SF	2.44	0.78	0.19	3.41
278	Insulation to roof 2" thick	SF	2.55	0.68	0.17	3.40
279	Roof ridge ventilator	LF	57.38	28.74	7.18	93.30
280	Steel rain gutters 6" x 6"	LF	24.39	14.74	3.69	42.82
281	Ditto downspouts	LF	19.90	12.45	3.11	35.47
282	Sky lights to roof 4' x 8'	EACH	790.59	149.24	37.31	977.14

2017 Division 5 - Structural Steel / Metals - Union		Unit	Material	Labor	Construction Equipment	Total
283	Pre-Engineered Buildings (Including excavation, concrete SOG, utilities and finishes) Average 17' floor to eave height (typically 10 - 20' high, includes 26 g colored roof and siding - (Used at a welding fabrication shop or as a warehouse with a footprint size of 120' X 30' = 3,600 SF (Maximum)	SF	43.63	41.37	1.50	86.50
284	Pre-Engineered Buildings (Including excavation, concrete SOG, utilities and finishes) Average 17' floor to eave height (typically 10 - 20' high, includes 26 g colored roof and siding - (Used at a welding fabrication shop or as a warehouse with a footprint size of 120' X 30' = 3,600 SF (Minimum)	SF	31.99	29.72	0.62	62.33
285	Pre-Engineered Buildings (Including excavation, concrete SOG, utilities and finishes) Average 17' floor to eave height (typically 10 - 20' high, includes 26 g colored roof and siding - (Used at a site / construction office and left for the operating company to use as admin center, includes partitions, air conditioning and toilets with a footprint size of 120' X 30' = 3,600 SF (Maximum)	SF	51.77	44.87	1.37	98.01
286	Pre-Engineered Buildings (Including excavation, concrete SOG, utilities and finishes) Average 17' floor to eave height (typically 10 - 20' high, includes 26 g colored roof and siding - (Used at a site / construction office and left for the operating company to use as admin center, includes partitions, air conditioning and toilets with a footprint size of 120' X 30' = 3,600 SF (Minimum)	SF	40.14	33.21	0.55	73.90
287	Metal Siding					
288	Metal siding, insulated metal - 2" thick, baked enamel finish on steel framing (Maximum) - 24 g	SF	14.95	8.04	1.33	24.32
289	Ditto (Minimum)	SF	6.17	4.43	0.73	11.32

	2017 Division 5 - Structural Steel / Metals - Union	Unit	Material	Labor	Construction Equipment	Total
290	Metal siding, insulated metal, porcelain finish ditto (Maximum)	SF	19.24	7.72	0.50	27.46
291	Ditto (Minimum)	SF	9.20	5.64	0.37	15.20
292	Metal ribbed colored siding on steel frame - 28 g	SF	2.26	2.11	0.32	4.68
293	Ditto - 26 g	SF	2.34	2.11	0.32	4.77
294	Ditto - 24 g	SF	2.50	2.11	0.32	4.92
295	Ditto - 22 g	SF	2.58	2.11	0.32	5.01
296	Ditto - 20 g	SF	2.70	2.11	0.32	5.13
297	Galv metal siding on steel frame - 28 g	SF	1.62	2.11	0.32	4.05
298	Ditto - 26 g	SF	2.13	2.11	0.32	4.55
299	Ditto - 24 g	SF	2.37	2.11	0.32	4.79
300	Ditto - 22 g	SF	2.50	2.11	0.32	4.92
301	Metal sandwich siding with 1.5" thick insulation, colored on both external and internal faces - 24 g	SF	5.83	4.64	0.90	11.37
Metal Holding Down Bolts						
302	H.D. bolt J type c/w nut and washer 1/2" dia 6" long	EACH	1.43	9.03	0.68	11.14
303	Ditto 9" long	EACH	1.65	10.24	0.77	12.66
304	Ditto 12" long	EACH	1.86	11.44	0.86	14.16
305	H.D. bolt J type c/w nut and washer 3/4" dia 9" long	EACH	2.13	9.03	0.68	11.84
306	Ditto 12" long	EACH	2.34	10.24	0.77	13.35
307	Ditto 18" long	EACH	2.83	11.44	0.86	15.12
308	H.D. bolt J type c/w nut and washer 1" dia 12" long	EACH	4.93	11.44	0.86	17.22
309	Ditto 18" long	EACH	5.88	12.64	0.95	19.47
310	Ditto 24" long	EACH	8.23	13.85	1.04	23.12
311	Expansion bolt 1/2" dia	EACH	1.46	17.96	1.17	20.59
312	Ditto, 3/4" dia	EACH	2.99	19.72	1.28	23.99
313	Ditto, 1" dia	EACH	6.06	22.85	1.48	30.39
314	Chemical anchor bolts 3/4" dia x 12" long	EACH	18.63	26.49	4.37	49.50
315	Ditto 1" dia, 12" long	EACH	35.46	28.90	4.77	69.13
316	ditto 1 1/2" dia, 15" long	EACH	54.70	33.72	5.56	93.98
317	Self drilling snap-off anchors 1/4" dia	EACH	1.32	15.05	0.98	17.35
318	Ditto 3/8" dia	EACH	1.74	17.46	1.13	20.34
319	Ditto 1/2" dia	EACH	2.28	19.87	1.29	23.44
320	Ditto 5/8" dia	EACH	2.95	22.28	1.45	26.67
321	Ditto 3/4" dia	EACH	3.73	24.69	1.60	30.02
322	High strength anchor bolts, c/w bolt, nut and washer 1/2" dia 2" long	EACH	0.54	2.89	0.19	3.62
323	Ditto 3" long	EACH	0.70	3.13	0.20	4.03
324	Ditto 4" long	EACH	0.78	3.37	0.22	4.37

2017 Division 5 - Structural Steel / Metals - Union		Unit	Material	Labor	Construction Equipment	Total
325	High strength anchor bolts, c/w bolt, nut and washer 3/4" dia 2" long	EACH	1.08	3.13	0.20	4.42
326	Ditto 3" long	EACH	1.20	3.37	0.22	4.79
327	Ditto 4" long	EACH	1.50	3.61	0.23	5.35
328	Ditto 6" long	EACH	1.74	3.85	0.25	5.85
329	Ditto 8" long	EACH	2.04	4.09	0.27	6.40
330	High strength anchor bolts, c/w bolt, nut and washer 1" dia 4" long	EACH	1.32	4.09	0.27	5.68
331	Ditto 6" long	EACH	1.47	4.58	0.30	6.34
332	Ditto 8" long	EACH	1.83	5.06	0.33	7.22
333	Ditto 10" long	EACH	2.13	5.54	0.36	8.03
334	Ditto 12" long	EACH	2.49	6.02	0.39	8.91
335	Steel lag screws 1/4" dia 2" long	EACH	0.17	2.53	0.16	2.86
336	Ditto 3" long	EACH	0.20	2.65	0.17	3.03
337	Steel lag screws 3/8" dia 3" long	EACH	0.35	3.13	0.20	3.68
338	Ditto 4" long	EACH	0.44	3.37	0.22	4.03
Stairs						
339	Pan type stairs, concrete filled pan 42" wide	TREAD	497.04	57.80	3.76	558.59
340	Ditto 48" wide	TREAD	581.93	67.43	4.38	653.75
341	Vertical steel ladder 24" wide, attached to concrete or masonry wall	LF	50.80	26.49	1.72	79.02
342	Ditto with half cage	LF	62.51	31.31	2.04	95.86
343	Railing 1 1/2" dia steel with 2 rails 42" high and uprights every 36"	LF	31.26	11.68	0.76	43.70
344	Wall rail 1 1/2" dia attached to concrete or masonry wall	LF	17.64	9.15	0.59	27.39
345	Spiral steel stairway 48" dia	LF	426.76	12.64	3.35	442.76
346	Ditto 60" dia	LF	571.02	15.05	3.99	590.06
347	Stairs 36" wide with associated handrails and kick plates	LF	342.61	22.28	5.90	370.79
348	Ditto 48" wide ditto	LF	408.73	29.50	7.82	446.05
349	Aluminum railings 42" high attached to floor	LF	49.83	7.53	1.99	59.35
350	Steel handrail, bolted to wall 1 1/4" dia	LF	8.48	7.35	1.95	17.77
351	Ditto 1 1/2" dia	LF	9.32	8.13	2.15	19.60
352	4" high kick plate	LF	5.83	4.03	1.07	10.93
Checker Plate Grating / Flooring						
353	1/4" thick steel plate with support framing	SF	23.85	4.21	1.24	29.30
354	3/8" thick ditto	SF	34.56	4.52	1.33	40.41
355	1/2" thick ditto	SF	45.38	4.82	1.42	51.62
356	1/4" ditto galv	SF	28.19	4.52	1.33	34.04
357	3/8" thick ditto	SF	39.01	4.82	1.42	45.25
358	1/2" thick ditto	SF	49.83	5.12	1.51	56.46

	2017 Division 11 - Equipment - Union	Unit	Material	Labor	Constr Equipt	Total
201	Radiology / X ray equipment wall mounted unit (Minimum)	EACH	9,316.35	163.82	10.65	9,490.82
202	Radiology / X ray equipment ceiling mounted (Maximum)	EACH	43,786.85	661.14	42.97	44,490.97
203	Radiology / X ray equipment ceiling mounted (Minimum)	EACH	30,278.14	848.37	55.14	31,181.66
204	Refrigerator / freezer 22.5 CF including electrical hook up	EACH	1,595.43	1,316.44	85.57	2,997.43
205	Sanitizer unit - stainless steel - 18" x 18" x 30" including electrical / piping hook up (Maximum)	EACH	22,009.88	497.32	32.33	22,539.53
206	Sanitizer unit - stainless steel - 18" x 18" x 30" including electrical / piping hook up (Minimum)	EACH	16,967.41	842.52	54.76	17,864.69
207	Saw - 1/2 HP 12" dia blade including electrical hook up	EACH	669.61	573.38	48.74	1,291.73
208	Saw (Band) - 3/4 HP 28" long blade including electrical hook up	EACH	791.89	44.47	3.78	840.14
209	Scissor / dock lifts with platform 10,000 pound capacity including associated electrical hook up	EACH	10,779.65	571.04	54.25	11,404.94
210	Scissor / dock lifts with platform 15,000 pound capacity including associated electrical hook up	EACH	17,131.84	313.60	29.79	17,475.23
211	Scissor / dock lifts with platform 20,000 pound capacity including associated electrical hook up	EACH	20,656.40	912.73	86.71	21,655.84
212	Scissor / dock lifts with platform 5,000 pound capacity including associated electrical hook up	EACH	7,195.25	1,568.02	148.96	8,912.24
213	Sonic instrument sterilizer / cleaning unit, including electrical hook up (Maximum)	EACH	20,973.15	2,855.21	271.24	24,099.60
214	Sonic instrument sterilizer / cleaning unit, including electrical hook up (Maximum)	EACH	15,138.68	1,731.85	164.53	17,035.05
215	Storage freezer chest 72" long x 36" wide x 30" deep	EACH	796.18	1,965.88	127.78	2,889.84
216	Tire changer - air operated station (Maximum)	EACH	9,182.20	121.70	7.91	9,311.81
217	Tire changer - air operated station (Minimum)	EACH	4,625.97	98.29	6.39	4,730.65
218	Trash - heavy duty compactor 1 CY capacity including electrical hook up	EACH	12,436.65	789.86	82.94	13,309.45
219	Trash - heavy duty compactor 2.5 CY capacity including electrical hook up	EACH	16,620.94	407.22	42.76	17,070.92
220	Trash - heavy duty compactor 5 CY capacity including electrical hook up	EACH	25,037.07	767.63	80.60	25,885.30
221	Truck scale - 25 Ton cast into concrete (Excludes excavation, concrete etc)	EACH	21,502.62	1,458.03	80.19	23,040.84

	2017 Division 11 - Equipment - Union	Unit	Material	Labor	Constr Equipt	Total
222	Truck scale - 50 Ton cast into concrete (Excludes excavation, concrete etc)	EACH	33,125.65	4.68	0.26	33,130.59
223	TV / Computer 40" information monitor attached to wall including brackets and electrical hook up	EACH	3,238.60	4.68	0.30	3,243.58
224	Washer - home use including electrical hook up	EACH	792.77	4.68	0.30	797.76
225	Washer - industrial / heavy duty including electrical hook up	EACH	7,857.17	4.68	0.30	7,862.16
226	Water distillation unit - heated by steam - 10 GPM	EACH	5,660.42	7.02	0.46	5,667.90
227	Water distillation unit - heated by steam - 25 GPM	EACH	12,049.21	752.26	48.90	12,850.38
228	Water distillation unit - heated by steam - 50 GPM	EACH	21,828.26	1,428.84	92.87	23,349.98
229	Vacuum tubing - 1" dia steel	LF	2.10	4.59	0.39	7.07
230	Vacuum tubing - 2" dia steel	LF	2.53	4.59	0.39	7.51
231	Vacuum tubing - 3" dia steel	LF	3.74	4.59	0.39	8.72
232	Vacuum tubing - 4" dia steel	LF	5.56	4.59	0.39	10.54
233	Vacuum tubing - 6" dia steel	LF	10.87	6.88	0.58	18.34

SAMPLE

	2017 Division 12 - Furnishings - Union	Unit	Material	Labor	Constr Equipt	Total
	Furnishings					
1	Conference room chair (Maximum)	EACH	663.25	20.65	0.72	684.62
2	Conference room chair (Minimum)	EACH	316.55	13.77	0.48	330.80
3	Conference room table 96" long x 36" wide (Maximum)	EACH	2,615.17	98.67	3.45	2,717.29
4	Conference room table 96" long x 36" wide (Minimum)	EACH	1,430.92	68.84	2.41	1,502.16
5	Cupboard / cabinet 30" high x 18" wide - birch with two shelves	LF	77.41	18.80	0.66	96.87
6	Cupboard / cabinet 30" high x 18" wide - birch with two shelves, with glass door	LF	139.70	25.85	0.90	166.46
7	Cupboard / cabinet birch 30" high x 24" wide c/w with 24" x 24" x 12" deep sink	LF	160.39	32.90	1.15	194.45
8	Cupboard / cabinet birch 30" high x 24" wide with 4 roll out drawers	LF	183.64	32.90	1.15	217.69
9	Cupboard / cabinet metal - base - 30" high x 24" wide with door and one shelf	LF	148.77	25.85	0.90	175.53
10	Cupboard / cabinet metal - base - 30" high x 24" wide with door and two shelves	LF	139.47	21.15	0.74	161.36
11	Cupboard / cabinet metal - base - 30" high x 24" wide with door and two shelves	LF	162.72	32.90	1.81	197.43
12	Cupboard / cabinet metal - open library shelving 72" high x 18" wide	LF	90.66	18.80	1.03	110.49
13	Cupboard / cabinet metal - wardrobe - 48" wide x 84" high x 30" deep c/w 2 # doors	EA	590.43	49.35	2.71	642.50
14	Cupboard / cabinet wood / Formica faced, 30" high base x 24" wide - with door and 1 shelf	LF	167.37	37.60	2.07	207.04
15	Cupboard / cabinet wood attached to wall 30" high x 18" deep with glass doors & 3 shelves	LF	202.23	47.00	2.59	251.82
16	Curtain rods 1" dia - polished metal	LF	9.07	14.10	1.06	24.22
17	Curtain rods 1" dia - stained wood	LF	10.93	14.10	1.06	26.08
18	Design drafting table (Maximum)	EACH	1,116.05	20.65	0.72	1,137.43
19	Design drafting table (Maximum)	EACH	647.91	16.06	0.56	664.53
20	Drapes / curtains (Maximum)	SF	8.71	3.79	0.25	12.74
21	Drapes / curtains (Minimum)	SF	3.73	2.87	0.19	6.78
22	Floor mat aluminum frame T section 1 1/2" high x 3/4" wide	LF	7.30	3.29	0.21	10.80
23	Floor mat bronze finish frame T section ! 1/2" high x 3/4" wide	LF	5.14	2.82	0.18	8.14
24	Floor mat, 1" thick hemp - rope / links matting	SF	27.80	3.75	0.24	31.80
25	Floor mat, 1/2" thick black rubber in-layed	SF	32.00	3.29	0.21	35.50
26	Floor mat, 1/4" thick black rubber with felt non slip top surface	SF	9.11	2.35	0.15	11.61

	2017 Division 12 - Furnishings - Union	Unit	Material	Labor	Constr Equip	Total
27	Floor mat, 3/8" thick black rubber in-layed	SF	21.90	3.05	0.20	25.15
28	Floor mat, 3/8" thick perforated black rubber in-layed	SF	24.53	3.05	0.20	27.78
29	Floor mat, vinyl 1/2" thick, recessed into metal frame	SF	14.39	3.29	0.21	17.89
30	Floor mat, vinyl 1/4" thick, recessed into metal frame	SF	10.86	3.29	0.21	14.36
31	General office / furniture - set up - administrator (Maximum)	EACH	5,307.76	187.24	6.55	5,501.55
32	General office / furniture - set up - administrator (Minimum)	EACH	2,908.52	117.02	4.10	3,029.64
33	General office / furniture - set up - designer / engineer (Maximum)	EACH	5,522.79	187.24	6.55	5,716.58
34	General office / furniture - set up - designer / engineer (Minimum)	EACH	3,157.50	117.02	4.10	3,278.62
35	General office / furniture - set up - reception station (Maximum)	EACH	6,201.82	210.64	7.37	6,419.84
36	General office / furniture - set up - reception station (Minimum)	EACH	3,134.86	140.43	4.92	3,280.21
37	General office / furniture - set up - senior manager (Maximum)	EACH	9,981.76	234.05	8.19	10,224.00
38	General office / furniture - set up - senior manager (Minimum)	EACH	7,661.74	163.83	5.73	7,831.30
39	Granite & simulated marble back splash x 6" high x 1" thick	LF	14.15	7.92	0.59	22.66
40	Granite & simulated marble work top 1" thick (Maximum)	SF	48.54	13.54	1.02	63.09
41	Granite & simulated marble work top 1" thick (Maximum)	SF	28.19	10.10	0.76	39.04
42	Hospital room furniture - bed / night stands, lamps, desk, chairs (Maximum)	EACH	4,095.21	367.13	27.54	4,489.88
43	Hospital room furniture - bed / night stands, lamps, desk, chairs (Minimum)	EACH	1,761.86	172.09	12.91	1,946.86
44	Hotel room furniture - bed / night stands, lamps, desk, chairs (Maximum)	EACH	10,196.03	447.44	33.56	10,677.04
45	Hotel room furniture - bed / night stands, lamps, desk, chairs (Minimum)	EACH	2,068.76	217.99	16.35	2,303.10
46	Laboratory case work - metal / with baked enamel paint - includes base and doors (Maximum)	LF	208.01	56.17	3.65	267.84
47	Laboratory case work - metal / with baked enamel paint - includes base and doors (Minimum)	LF	154.59	37.45	2.43	194.47
48	Laboratory case work - metal / with baked enamel paint - includes base and drawers (Maximum)	LF	443.31	63.19	4.11	510.61
49	Laboratory case work - metal / with baked enamel paint - includes base and drawers (Minimum)	LF	326.23	42.13	2.74	371.09

	2017 Division 12 - Furnishings - Union	Unit	Material	Labor	Constr Equip	Total
50	Laboratory case work - metal / with baked enamel paint - includes base and glass doors (Maximum)	LF	284.17	56.17	3.65	343.99
51	Laboratory case work - metal / with baked enamel paint - includes base and glass doors (Minimum)	LF	221.65	37.45	2.43	261.53
52	Laminated plastic back splash 1/2" thick x 6" high	LF	7.62	6.42	0.48	14.52
53	Laminated plastic work top 1/2" thick x 24" deep (Maximum)	LF	21.03	13.19	0.99	35.21
54	Laminated plastic work top 1/2" thick x 24" deep (Minimum)	LF	13.07	9.75	0.73	23.56
55	Metal file cabinet - 48" high - 4 drawer (Maximum)	EA	431.94	22.95	0.80	455.69
56	Metal file cabinet - 48" high - 4 drawer (Minimum)	EA	306.90	16.06	0.56	323.53
57	Office credenza, 60" long x 72" high (Maximum)	EACH	1,113.95	68.84	2.41	1,185.19
58	Office credenza, 60" long x 72" high (Minimum)	EACH	750.21	57.36	2.01	809.58
59	Office hardwood cabinets 36" high x 18" deep - with shelves every 12" - attached to wall (Maximum)	LF	67.06	39.01	2.15	108.22
60	Office hardwood cabinets 36" high x 18" deep - with shelves every 12" - attached to wall (Minimum)	LF	43.19	29.83	1.64	74.66
61	Office hardwood cabinets 84" high x 18" deep - with shelves every 12" - attached to wall (Maximum)	LF	159.14	89.49	4.92	253.55
62	Office hardwood cabinets 84" high x 18" deep - with shelves every 12" - attached to wall (Minimum)	LF	102.30	66.54	3.66	172.50
63	Office movable partitioning, 60" high" high	LF	152.77	14.91	0.52	168.21
64	Office movable partitioning, 72" high" high	LF	180.28	14.91	0.52	195.71
65	Office softwood - birch cabinets 36" high x 18" deep - with shelves every 12" - attached to wall (Maximum)	LF	45.47	39.01	2.15	86.62
66	Office softwood - birch cabinets 36" high x 18" deep - with shelves every 12" - attached to wall (Minimum)	LF	30.69	29.83	1.64	62.16
67	Office softwood - birch cabinets 84" high x 18" deep - with shelves every 12" - attached to wall (Maximum)	LF	110.26	89.49	4.92	204.67
68	Office softwood - birch cabinets 84" high x 18" deep - with shelves every 12" - attached to wall (Minimum)	LF	71.61	66.54	3.66	141.81
69	Office workstation chair (Maximum)	EACH	764.15	18.36	0.64	783.15
70	Office workstation chair (Minimum)	EACH	421.99	13.77	0.48	436.24

	2017 Division 12 - Furnishings - Union	Unit	Material	Labor	Constr Equip	Total
71	Round plastic planter 30" dia x 24" high	EACH	70.47	11.47	0.86	82.81
72	Soundproof curtains / drapes including top rail and fittings	SF	11.14	5.05	0.38	16.57
73	Square plastic planter 30" x 30" x 24" high	EACH	78.09	13.77	1.03	92.89
74	Student / dormitory room furniture - bed / night stands, lamps, desk, chairs (Maximum)	EACH	2,968.53	298.30	22.37	3,289.19
75	Student / dormitory room furniture - bed / night stands, lamps, desk, chairs (Minimum)	EACH	1,482.16	149.15	11.19	1,642.49
76	Trash barrel 60 gallon - plastic	EACH	169.37	14.46	1.08	184.91
77	Window (plastic based) material shades c/w standard roller (Maximum)	SF	6.47	6.15	0.22	12.84
78	Window (plastic based) material shades c/w standard roller (Minimum)	SF	2.74	4.09	0.14	6.97
79	Window blinds - horizontal - plastic material (Maximum)	SF	6.72	5.99	0.21	12.93
80	Window blinds - horizontal - plastic material (Minimum)	SF	3.83	3.59	0.13	7.55
81	Window blinds fabric - vertical strips (Maximum)	SF	10.08	6.87	0.24	17.19
82	Window blinds fabric - vertical strips (Minimum)	SF	4.59	4.23	0.15	8.97
83	Window blinds PVC - vertical strips (Maximum)	SF	8.93	6.58	0.23	15.73
84	Window blinds PVC - vertical strips (Minimum)	SF	4.24	3.99	0.14	8.38
85	Window mini blinds - horizontal - plastic material (Maximum)	SF	8.06	6.81	0.24	15.11
86	Window mini blinds - horizontal - plastic material (Minimum)	SF	4.57	3.76	0.13	8.46
87	Wooden key holder cabinet 36" wide x 28" high - 100 keys c/w glass door fixed to wall	EACH	199.28	25.83	1.94	227.05
88	Wooden planters c/w fiberglass liner 48" long x 24" wide x 30" deep (Maximum)	EACH	859.35	32.88	2.47	894.70
89	Wooden planters c/w fiberglass liner 48" long x 24" wide x 30" deep (Minimum)	EACH	559.37	23.44	1.76	584.56

	2017 Division 13 - Special Construction - Union	Unit	Material	Labor	Constr Equip	Total
1	Above ground steel storage tank 100,000 gallons - excludes foundations and piping systems	EACH	99,848	67,886	5,091	172,826
2	Above ground steel storage tank 250,000 gallons - excludes foundations and piping systems	EACH	227,696	154,213	11,566	393,475
3	Above ground steel storage tank 500,000 gallons - excludes foundations and piping systems	EACH	309,130	209,405	15,705	534,240
4	Above ground steel storage tank 1,000,000 gallons - excludes foundations and piping systems	EACH	439,331	447,282	33,546	920,160
5	Air lock / vestibule (Maximum)	EACH	13,600	3,185	239	17,024
6	Air lock / vestibule (Minimum)	EACH	8,263	1,444	108	9,815
7	Air shower above doorway - 3' wide x 8' high including electrical / controls hook up	EACH	1,284.84	1,038	99	2,422
8	Air shower above doorway, 6' wide x 10' high including electrical / controls hook up	EACH	2,070.51	1,264	120	3,454
9	Arena / Dome - corrugated metal 20 g	SF	15.45	10.42	0.99	26.87
10	Arena / Dome - fabric cover / cable supported	SF	21.78	14.69	1.40	37.86
11	Arena / Dome - steel decking / cable supported	SF	19.06	12.86	1.22	33.15
12	Arena / Dome thin wall concrete	SF	23.35	15.75	1.50	40.59
13	Asbestos removal 1" thick duct / breeching / wall insulation (Maximum)	SF	0.76	7.79	0.78	9.33
14	Asbestos removal 1" thick duct / breeching / wall insulation (Maximum)	SF	0.41	4.60	0.46	5.47
15	Asbestos removal 2" thick duct / breeching / wall insulation (Maximum)	SF	1.40	14.87	1.49	17.76
16	Asbestos removal 2" thick duct / breeching / wall insulation (Maximum)	SF	0.70	8.56	0.86	10.11
17	Audiometric deadening / masking	SFFA	1.85	0.59	0.04	2.49
18	Audiometric room - inside existing facility	SFFA	55.39	17.77	1.33	74.50
19	Bank service window with safety - protection glass c/w with speaker and deposit box including electrical hook up (Maximum)	EACH	4,632	466	40	5,138
20	Bank service window with safety - protection glass c/w with speaker and deposit box including electrical hook up (Minimum)	EACH	3,276	320	27	3,623

	2017 Division 13 - Special Construction - Union	Unit	Material	Labor	Constr Equip	Total
21	Blast absorption chamber - inside existing building	SF	68.65	21.84	1.64	92.13
22	Clean room - Class 1,000 n/e 5,000 SF (Maximum) - excludes AE, CM and Owner Engineering costs	SF				\$ 881
23	Clean room - Class 1,000 n/e 5,000 SF (Minimum)	SF				\$ 757
24	Clean room - Class 10,000 n/e 5,000 SF (Maximum)	SF				\$ 822
25	Clean room - Class 10,000 n/e 5,000 SF (Minimum)	SF				\$ 648
26	Clean room - Class 100 n/e 5,000 SF (Maximum)	SF				\$ 1,067
27	Clean room - Class 100 n/e 5,000 SF (Minimum)	SF				\$ 938
28	Clean room - Class 100,000 - ISO 8 n/e 5,000 SF (Maximum)	SF				\$ 763
29	Clean room - Class 100,000 - ISO 8 n/e 5,000 SF (Minimum)	SF				\$ 525
30	Clean room - unclassified n/e 5,000 SF (Maximum)	SF				\$ 486
31	Clean room - unclassified n/e 5,000 SF (Minimum)	SF				\$ 299
32	Clean room - Class 1,000 n/e 25,000 SF (Maximum)	SF				\$ 831
33	Clean room - Class 1,000 n/e 25,000 SF (Minimum)	SF				\$ 723
34	Clean room - Class 10,000 n/e 25,000 SF (Maximum)	SF				\$ 791
35	Clean room - Class 10,000 n/e 25,000 SF (Minimum)	SF				\$ 627
36	Clean room - Class 100 n/e 25,000 SF (Maximum)	SF				\$ 1,000
37	Clean room - Class 100 n/e 25,000 SF (Minimum)	SF				\$ 887
38	Clean room - Class 100,000 - ISO 8 n/e 25,000 SF (Maximum)	SF				\$ 734
39	Clean room - Class 100,000 - ISO 8 n/e 25,000 SF (Minimum)	SF				\$ 503
40	Clean room - unclassified n/e 25,000 SF (Maximum)	SF				\$ 452
41	Clean room - unclassified n/e 25,000 SF (Minimum)	SF				\$ 281
42	Cleanroom benches 36" long x 18" wide x 24" high - stainless steel fixed to floor (Maximum)	EACH	990.74	106.87	8.02	1,105.63
43	Cleanroom benches 36" long x 18" wide x 24" high - stainless steel fixed to floor (Minimum)	EACH	668.30	80.43	6.03	754.76

2017 Division 13 - Special Construction - Union		Unit	Material	Labor	Constr Equipt	Total
44	Cleanroom pre-fabricated wall system 4" thick with vinyl wash down surface (Maximum)	SF	18.39	5.82	0.49	24.70
45	Cleanroom pre-fabricated wall system 4" thick with vinyl wash down surface (Minimum)	SF	13.86	3.42	0.29	17.57
46	Demolish steel storage tank 10,000 gallons - not including foundation and piping / electrical services	EACH		1,182.28	396.06	1,615
47	Demolish steel storage tank 100,000 gallons - not including foundation and piping / electrical services	EACH		9,679.65	3,242.68	13,220
48	Demolish steel storage tank 2,500 gallons - not including foundation and piping / electrical services	EACH		324.24	108.62	442.82
49	Demolish steel storage tank 25,000 gallons - not including foundation and piping / electrical services	EACH		2,635.79	882.99	3,599.71
50	Demolish steel storage tank 5,000 gallons - not including foundation and piping / electrical services	EACH		643.25	215.49	878.49
51	Demolish steel storage tank 50,000 gallons - not including foundation and piping / electrical services	EACH		5,051.43	1,692.23	6,899
52	Echo chamber - inside existing building	SFFA	43.42	24.38	1.83	69.63
53	Electro - magnetic door holder	EACH	101.90	112.84	8.46	223.21
54	Elevated water storage tank - metal 100,000 gallon - excludes foundations, piping and associated pumps.	EACH	300,492	101,997	7,650	410,139
55	Elevated water storage tank - metal 250,000 gallon - excludes foundations, piping and associated pumps.	EACH	415,287	140,963	10,572	566,822
56	Elevated water storage tank - metal 50,000 gallon - excludes foundations, piping and associated pumps.	EACH	217,210	73,728	5,530	296,468
57	Elevated water storage tank - metal 500,000 gallon - excludes foundations, piping and associated pumps.	EACH	669,636	227,298	17,047	913,981
58	Entrance card reader (Maximum)	EACH	1,598.04	173.96	17.40	1,789.40
59	Entrance card reader (Maximum)	EACH	1,019.04	126.95	12.69	1,158.68
60	Fire alarm annunciator	EACH	55.58	79.93	7.99	143.51
61	Fire alarm control panel - 4 zone including electrical hook up	EACH	1,412.76	564.20	56.42	2,033.38

2017 Division 13 - Special Construction - Union		Unit	Material	Labor	Constr Equip	Total
62	Fire alarm control panel - 8 zone including electrical hook up	EACH	2,084.40	893.32	89.33	3,067.05
63	Fire suppression system CO2 or equal for computer / control room (Maximum)	CF				\$ 3.47
64	Fire suppression system CO2 or equal for computer / control room (Minimum)	CF				\$ 2.24
65	Greenhouse n/e 1,500 SF - excludes foundations and irrigation system (Maximum)	SF	36.55	6.24	0.34	43.13
66	Greenhouse n/e 1,500 SF - excludes foundations and irrigation system (Minimum)	SF	24.97	3.88	0.21	29.06
67	Greenhouse n/e 15,000 SF - excludes foundations and irrigation system (Maximum)	SF	23.73	4.82	0.27	28.82
68	Greenhouse n/e 15,000 SF - excludes foundations and irrigation system (Minimum)	SF	12.16	2.35	0.13	14.64
69	Greenhouse n/e 5,000 SF - excludes foundations and irrigation system (Maximum)	SF	27.19	5.52	0.30	33.02
70	Greenhouse n/e 5,000 SF - excludes foundations and irrigation system (Minimum)	SF	15.63	3.17	0.17	18.98
71	Hangars - pre-fabricated galvanized steel and roof - excludes foundations and incoming services (Maximum)	SFFA	16.79	3.35	0.25	20.39
72	Hangars - pre-fabricated galvanized steel and roof - excludes foundations and incoming services (Minimum)	SFFA	13.61	2.35	0.18	16.13
73	HEPA Filters (Maximum)	EACH	509.52	79.93	6.79	596.24
74	HEPA Filters (Minimum)	EACH	382.14	51.72	4.40	438.25
75	Horn & strobe alarm including electrical hook up	EACH	134.33	91.68	9.17	235.18
76	Inflated air structure n/e 10,000 SF includes foundation and floor and services inside structure	SF	17.91	5.35	0.67	23.93
77	Inflated air structure n/e 2,500 SF includes foundation and floor and services inside structure	SF	22.31	5.00	0.62	27.93
78	Inflated air structure n/e 25,000 SF includes foundation and floor and services inside structure	SF	15.61	5.58	0.70	21.89
79	Inflated air structure n/e 5,000 SF includes foundation and floor and services inside structure	SF	20.08	5.00	0.62	25.70

2017 Division 13 - Special Construction - Union		Unit	Material	Labor	Constr Equip	Total
80	Integrated pre-fabricated - switch / duplex outlet	EA	25.31	12.66	0.44	38.41
81	Integrated pre-fabricated 4" corner posts - 10' high	EA	102.04	18.49	0.65	121.18
82	Integrated pre-fabricated 4" corner posts - 7' high	EA	74.32	18.49	0.65	93.45
83	Integrated pre-fabricated 4" corner posts - 8' high	EA	88.21	18.49	0.65	107.35
84	Integrated pre-fabricated wall panel 4" thick 10' high c/w top & bottom rail	LF	106.46	21.28	0.74	128.49
85	Integrated pre-fabricated wall panel 4" thick 7' high c/w top & bottom rail	LF	77.44	18.49	0.65	96.58
86	Integrated pre-fabricated wall panel 4" thick 8' high c/w top & bottom rail	LF	86.93	19.39	0.68	107.01
87	Integrated suspended ceiling c/w T bar - 100 foot candles	SF	16.02	2.94	0.16	19.12
88	Integrated suspended ceiling c/w T bar - 75 foot candles	SF	17.75	3.17	0.17	21.09
89	Lead paint encapsulation (Maximum)	SF	1.00	9.17	1.38	11.54
90	Lead paint encapsulation (Minimum)	SF	0.63	5.17	0.78	6.58
91	Lead paint removal (Maximum)	SF	0.77	6.58	0.99	8.34
92	Lead paint removal (Minimum)	SF	0.40	4.00	0.60	4.99
93	Mold removal (Maximum)	SF	0.88	3.39	0.41	4.68
94	Mold removal (Minimum)	SF	0.47	1.95	0.23	2.65
95	Packaged burner / incinerator unit 100 pounds / hour - excludes foundations, interconnecting piping / electrical systems and scrubber unit	EA	12,998	8,796	396	22,189
96	Packaged burner / incinerator unit 250 pounds / hour - excludes foundations, interconnecting piping / electrical systems and scrubber unit	EA	30,995	20,974	944	52,913
97	Packaged burner / incinerator unit 50 pounds / hour - excludes foundations, interconnecting piping / electrical systems and scrubber unit	EA	10,398	7,037	317	17,751
98	Packaged burner / incinerator unit 500 pounds / hour - excludes foundations, interconnecting piping / electrical systems and scrubber unit	EA	18,597	13,459	606	32,662
99	Pre-fabricated metal building 26 g metal - 20' wide span - 14' eaves height- excludes foundations / incoming services	SFFA	10.54	7.22	4.77	22.52
100	Pre-fabricated metal building 26 g metal - 20' wide span - 16' eaves height- excludes foundations / incoming services	SFFA	11.12	7.62	5.03	23.76

	2017 Division 13 - Special Construction - Union	Unit	Material	Labor	Constr Equip	Total
101	Pre-fabricated metal building 26 g metal - 20' wide span - 20' eaves height- excludes foundations / incoming services	SFFA	11.93	8.17	5.39	25.49
102	Pre-fabricated metal building 26 g metal - 30' - 40' wide span - 14' eaves height- excludes foundations / incoming services	SFFA	8.92	6.11	4.03	19.06
103	Pre-fabricated metal building 26 g metal - 30' - 40' wide span - 16' eaves height- excludes foundations / incoming services	SFFA	9.50	6.51	4.29	20.30
104	Pre-fabricated metal building 26 g metal - 30' - 40' wide span - 20' eaves height- excludes foundations / incoming services	SFFA	10.31	7.06	4.66	22.03
105	Pre-fabricated metal building 26 g metal - 40' - 60' wide span - 14' eaves height- excludes foundations / incoming services	SFFA	7.53	5.16	3.40	16.09
106	Pre-fabricated metal building 26 g metal - 40' - 60' wide span - 16' eaves height- excludes foundations / incoming services	SFFA	8.11	5.55	3.67	17.33
107	Pre-fabricated metal building 26 g metal - 40' - 60' wide span - 20' eaves height- excludes foundations / incoming services	SFFA	8.92	6.11	4.03	19.06
108	Recording / Broadcasting customized studios - n/e 1,500 SF c/w electrical / audio system	SFFA	68.32	88.16	6.61	163.09
109	Smoke detector including hook up	EACH	101.90	79.93	7.99	189.83
110	Sound deadening panel / enclosure - 4" thick attached to existing wall	SF	43.12	9.17	0.50	52.79
111	Sound isolation flooring system	SF	6.80	6.36	0.35	13.51
112	Storage silo - concrete 12' diameter x 36' high includes foundation	EACH	26,634	10,790	755	38,179
113	Storage silo - concrete 16' diameter x 48' high includes foundation	EACH	34,277	13,886	972	49,135
114	Storage silo - concrete 20' diameter x 60' high includes foundation	EACH	40,935	16,584	1,161	58,680
115	Swimming pool / hot tub - spa (Maximum)	EACH	12,159	658	43	12,860
116	Swimming pool / hot tub - spa (Minimum)	EACH	20,265	987	64	21,316
117	Swimming pool hotel - includes excavation , gunite walls and associated MEP systems (Maximum)	SFFA	97.27	61.12	3.97	162.37

2017 Division 13 - Special Construction - Union		Unit	Material	Labor	Constr Equip	Total
118	Swimming pool hotel - includes excavation , gunite walls and associated MEP systems (Minimum)	SFFA	62.53	37.61	2.44	102.59
119	Swimming pool residential - includes excavation , gunite walls and associated MEP systems (Maximum)	SFFA	62.53	37.61	2.44	102.59
120	Swimming pool residential - includes excavation , gunite walls and associated MEP systems (Minimum)	SFFA	39.37	25.86	1.68	66.91
121	Swimming pool school - includes excavation , gunite walls and associated MEP systems (Maximum)	SFFA	74.11	49.37	3.21	126.69
122	Swimming pool school - includes excavation , gunite walls and associated MEP systems (Minimum)	SFFA	50.95	30.56	1.99	83.50
123	Underground double wall fiberglass storage tank 1,000 gallon	EACH	6,427	521.89	39.14	6,987.92
124	Underground double wall storage tank 10,000 gallon	EACH	17,023	1,382.30	103.67	18,508.53
125	Underground double wall storage tank 2,500 gallon	EACH	9,611	780.48	58.54	10,450.40
126	Underground double wall storage tank 5,000 gallon	EACH	13,143	1,067.29	80.05	14,290.60
127	Walk in cold room c/w doors, ceiling, floor and controls (Maximum)	SFFA	0	0		\$ 288.33
128	Walk in cold room c/w doors, ceiling, floor and controls (Minimum)	SFFA	0	0		\$ 162.57
129	Wall pass through 36" x 30" high (Maximum)	EACH	1,453.32	145.86	12.40	1,611.58
130	Wall pass through 36" x 30" high (Minimum)	EACH	2,623.24	185.85	15.80	2,824.89
131	X-Ray / Radiation protection glass windows with X-Ray / Radiation protection frames (Maximum)	SF	297.18	63.52	4.13	364.82
132	X-Ray / Radiation protection glass windows with X-Ray / Radiation protection frames (Minimum)	SF	171.80	39.99	2.60	214.40
133	X-Ray / Radiation protection lined gypsum wall board (Maximum)	SF	25.89	4.23	0.19	30.31
134	X-Ray / Radiation protection lined gypsum wall board (Minimum)	SF	13.18	3.18	0.14	16.49