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# MECHANICAL/ELECTRICAL **SQUARE FOOT** COSTBOOK 2025 EDITION



 **CSI MasterFormat®**



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 **CSI** MasterFormat®

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## Mechanical Electrical Square Foot Costbook 2025

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### Mechanical and Electrical Costs

Fire Suppression, Plumbing, HVAC and Electrical (MEP systems) account for a large portion of a building's cost. *Design Cost Data™ (DCD)* magazine has teamed up to provide an in-depth resource examining the costs and the effect of these systems to the total building cost.

The *Mechanical Electrical Square Foot Costbook* examines MEP divisions of buildings and provides an itemized account of the materials used and their cost. This resource features 65 projects of a wide range, with costs escalated to January 2025. Projects of all types — new construction, additions, renovations and build-outs are included. Some of the projects included are "Green" and illustrate costs for geothermal concepts and other energy-efficient mechanical/electrical components.

This resource provides users a tool to help develop a conceptual estimate of an appropriate MEP system cost for a project similar to what they are working on. Also included in this resource are Metro Area Multipliers to customize the user's cost model to his area of the country.

Along with the project cost studies, users have access to Unit-In-Place Costs for mechanical and electrical systems. These costs, coupled with the project cost studies, give a complete estimating reference for MEP systems.

All projects appearing in this manual have been previously published in *DCD* and can be found online at [www.dcd.com](http://www.dcd.com). Subscribers of *DCD* have unlimited access to this cost database and cost indexes for cost modeling.



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# Part One

## Mechanical / Electrical Square Foot Costs

Every case study is described in a short summary. These summaries are given to provide insight into the circumstances and requirements behind the design. A building's function often influences the choice of mechanical and electrical systems and thus the cost. Local factors are taken into consideration. Budget constraints, material availability and personal expertise of an individual contractor all affect a project's outcome. Wherever appropriate, these types of issues are explained in the descriptions that accompany each case study.

### Building Case Studies Included In This Edition

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| 23 | Safety Facility              | Civic .....       | 52       | 56 | Lofts                      | Residential ..... | 118      |
| 24 | County Sheriff               | Civic .....       | 54       | 57 | House                      | Residential ..... | 120      |
| 25 | Fire Station                 | Civic .....       | 56       | 58 | Mixed Use Residential      | Residential ..... | 122      |
| 26 | Historical Meeting Center    | Civic .....       | 58       | 59 | Mixed Use                  | Residential ..... | 124      |
| 27 | Student Union                | Educational ..... | 60       | 60 | Senior Housing             | Residential ..... | 126      |
| 28 | Elementary School            | Educational ..... | 62       | 61 | Guest House                | Residential ..... | 128      |
| 29 | Creative Arts Studio         | Educational ..... | 64       | 62 | Broadway Lofts             | Residential ..... | 130      |
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## OPERATIONS FACILITY

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### FILE 1



The Central Contra Costa Sanitary District (CCCSD) currently serves a 146-mile area of Contra Costa County, in Northern California. The Collection System Operations (CSO) Department, responsible for the cleaning, maintenance, and repair of the District's 1,500 miles of underground pipeline, is centrally located. The 5.15 acre site, with a 70-foot elevation change, is bounded by a main highway interchange and a public street leading to a residential area. Overhead high voltage transmission lines bisect the site east-to-west.

The facility includes crew operations, warehousing, administration, training, and lockers and showers. The secure site includes vehicle storage, covered material bins and loading area, yard storage, fueling stations, and training areas. A separate, existing vehicle maintenance facility shares the site.

Due to the topography of the site, the yard is divided into lower, middle, and upper yards; the new CSO Facility is nestled into the hillside separating the lower and middle yards. A central second floor crew room, which also serves as training rooms and EOC, with adjoining kitchen, provides a gathering place for the crews and opens onto the middle yard. Adjacent to the crew room are separate workrooms for the construction and cleaning crews, as well as the technical services support areas. Mud rooms, locker rooms, and showers are provided for the crews. Administration offices and the warehouse are located on the first floor, and open onto the lower yard. Public entry is situated mid-level between the two floors, due to the topography.

The CSO Facility utilizes a concrete slab with drilled pier and pad foundations, a 20-foot-high tie-back retaining wall to retain the hillside, and structural steel framing with concrete and metal decks. Concrete wall panels envelope the warehouse area. Roofing is reflective SBS membrane roofing, with metal sunshades. The metal exterior cladding with the curtain wall and concrete invoke the clean lines of the building.

The CSO Facility is pursuing LEED®-Gold certification. Environment and energy planning include high-efficiency HVAC equipment, hydronic floor heating and low-velocity fan, low-flow plumbing fixtures, site stormwater filtration through pervious pavement, bioswales, and a roof garden. Windows are abundant throughout, with exterior sunshades, and an automated interior shading system, to provide views and daylighting, and are complemented by energy-efficient light fixtures, with motion sensors. Polished concrete floors and recycled countertops are used throughout the facility, and low-emitting materials on all interior finishes.

## OPERATIONS FACILITY

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>11</b>                    | <b>Equipment</b>                      | <b>0.62</b>   | <b>2.84</b>     | <b>77,284</b>     |
|                              | Kitchen                               | 0.41          | 1.91            | 51,523            |
|                              | Video Mounts                          | 0.21          | 0.93            | 25,760            |
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.40</b>   | <b>6.46</b>     | <b>175,174</b>    |
|                              | Water-Based Fire-Suppression          | 1.10          | 5.04            | 137,393           |
|                              | Fire Suppression Contractor           | 0.30          | 1.38            | 37,782            |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>3.44</b>   | <b>15.81</b>    | <b>429,350</b>    |
|                              | Underground Install                   | 0.63          | 2.92            | 79,000            |
|                              | Rough Install                         | 1.68          | 7.72            | 209,523           |
|                              | Finish Install                        | 1.13          | 5.17            | 140,826           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>13.76</b>  | <b>63.21</b>    | <b>1,717,404</b>  |
|                              | Set VAV Per Floor                     | 0.69          | 3.16            | 85,870            |
|                              | Run S&R Water to VAVs                 | 0.55          | 2.52            | 68,695            |
|                              | Duct Work per Floor                   | 1.24          | 5.68            | 154,566           |
|                              | Radiant Floor Piping                  | 0.34          | 1.59            | 42,934            |
|                              | Exhaust Duct Work per Floor           | 0.55          | 2.52            | 68,695            |
|                              | Insulation                            | 0.69          | 3.16            | 85,870            |
|                              | Set Roof Equipment Dry Side           | 2.89          | 13.27           | 360,654           |
|                              | Set Roof Equipment Wet                | 1.51          | 6.95            | 188,915           |
|                              | Set Solar                             | 0.69          | 3.16            | 85,870            |
|                              | Register Installation                 | 0.83          | 3.79            | 103,044           |
|                              | EMS Control                           | 2.20          | 10.11           | 274,784           |
|                              | Test & Start Up                       | 0.89          | 4.11            | 111,631           |
|                              | Air & Water Balance                   | 0.69          | 3.16            | 85,870            |
| <b>26</b>                    | <b>Electrical</b>                     | <b>11.42</b>  | <b>52.44</b>    | <b>1,425,445</b>  |
|                              | Install Underground                   | 1.78          | 8.15            | 221,545           |
|                              | Generator                             | 3.00          | 13.77           | 374,394           |
|                              | Pull Feeders                          | 1.54          | 7.08            | 192,348           |
|                              | Rough 1st Floor                       | 1.05          | 4.79            | 130,522           |
|                              | Rough 2nd Floor                       | 1.11          | 5.13            | 139,109           |
|                              | Install Trim 1st Floor                | 1.56          | 7.16            | 194,924           |
|                              | Install Trim 2nd Floor                | 1.38          | 6.35            | 172,599           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.51</b>   | <b>6.95</b>     | <b>188,915</b>    |
|                              | Access Control & Intrusion Detection  | 1.51          | 6.95            | 188,915           |
| <b>Total M &amp; E Costs</b> |                                       | <b>32.15</b>  | <b>147.69</b>   | <b>4,013,572</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>459.12</b>   | <b>12,478,803</b> |

## AIRPORT TERMINAL

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### FILE 2



Largely supported by the training mission of the nearby National Guard's Camp Grafton, the travel needs of the Devils Lake Region have been steadily increasing over the past decade. The new 5,600-square-foot, \$2.4 million state-of-the-art passenger terminal, which nearly doubles the size of the former terminal, was designed to meet the community's growing air transportation needs while also accommodating the new security requirements in the air travel industry. North Dakota Senator Byron Dorgan commented, "This is a good day for the City of Devils Lake and the State of North Dakota. Air travel is an important part of our transportation network."

JLG Architects' design for the new airport terminal gives the Devils Lake region a new landmark for their community. The terminal reflects the heritage of flight with its aerodynamic roofline and exposed cable/strut structural system. The exposed metals, masonry, and wood finishes offer economical and durable construction while respecting the character of the aviation industry and the local region. Traffic flow is controlled in the central portion of the terminal, which consists of the lobby, ticketing, screening area, and passenger holding, while the two wings of the building contain offices, a training room, baggage handling, and return rooms. Access to secured areas is controlled with a card reader system. "This building will be the first impression of the Devils Lake community for many that will be traveling through this airport, said Dan Miller, the Architect for the terminal. "We think that this facility will be a first class introduction for visitors to the area."

## AIRPORT TERMINAL

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| <b>Code</b>                  | <b>Division Name</b>        | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-----------------------------|---------------|-----------------|------------------|
| <b>22</b>                    | <b>Plumbing</b>             | <b>2.72</b>   | <b>12.79</b>    | <b>77,996</b>    |
|                              | Piping & Pumps              | 1.44          | 6.80            | 41,404           |
|                              | Fixtures                    | 1.28          | 6.00            | 36,590           |
| <b>23</b>                    | <b>HVAC</b>                 | <b>9.95</b>   | <b>46.77</b>    | <b>285,338</b>   |
|                              | Piping & Pumps              | 0.39          | 1.84            | 11,232           |
|                              | Air Distribution            | 6.09          | 28.63           | 174,605          |
|                              | Central HVAC Equipment      | 3.47          | 16.32           | 99,500           |
| <b>26</b>                    | <b>Electrical</b>           | <b>9.15</b>   | <b>43.05</b>    | <b>262,548</b>   |
|                              | Medium Voltage Distribution | 4.52          | 21.24           | 129,524          |
|                              | Lighting                    | 4.64          | 21.81           | 133,023          |
| <b>Total M &amp; E Costs</b> |                             | <b>21.82</b>  | <b>102.62</b>   | <b>625,880</b>   |
| <b>Total Building Costs</b>  |                             | <b>100.00</b> | <b>470.27</b>   | <b>2,868,634</b> |

## DELICATESSEN

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### FILE 3



The extreme complexity of this facility incorporating a full bakery, kitchen, meat preparation, meat smoking, retail sales, as well as a restaurant and outdoor cafe called upon The Direct Approach to design and construct the 6,548-square-foot facility. The Direct Approach utilized Direct Design Ltd., Architects (DDL) and Direct Design Construction Management Ltd. (DDCM) of McHenry, Illinois as a unified source for design and construction.

The owner contacted DDL to design a full service European deli to serve the McHenry County area. Currently residents travel 50 to 60 miles to Chicago for authentic European meats, sausages and bakery items. The building was designed to create a European deli atmosphere. The exterior facade consists of brick on a rough cut stone base and a herringbone brick and stone cap detail. The design included the use of poured-in-place "stamped" concrete sidewalks, outdoor cafe and interior slabs.

The wall murals in the dining area are original paintings prepared from actual photographs of Europe. The murals were painted on canvas in Chicago, rolled up, and installed in the deli by the artist. The murals include the birthplace of the owners and the church in which they were married in twenty-five years ago.

The interior preparation areas include a full bakery with a 6-tray revolving oven, rotating oven, mixers, proofer, walk-in cooler and dough divider to accommodate the baker's needs in preparing authentic European pastries and breads. The meat preparation area has basic freezers and coolers, but also includes specialty equipment to prepare smoked meats and sausages. The prep area has injectors, cutters, sausage stuffers, cook tanks, kettles and a 4- x 6- x 8-foot-tall wood burning smoker.

The Direct Approach enabled this project to be completed to meet the owner's stringent time constraints including the complete design, selection, and purchase of the long lead kitchen equipment.

## DELICATESSEN

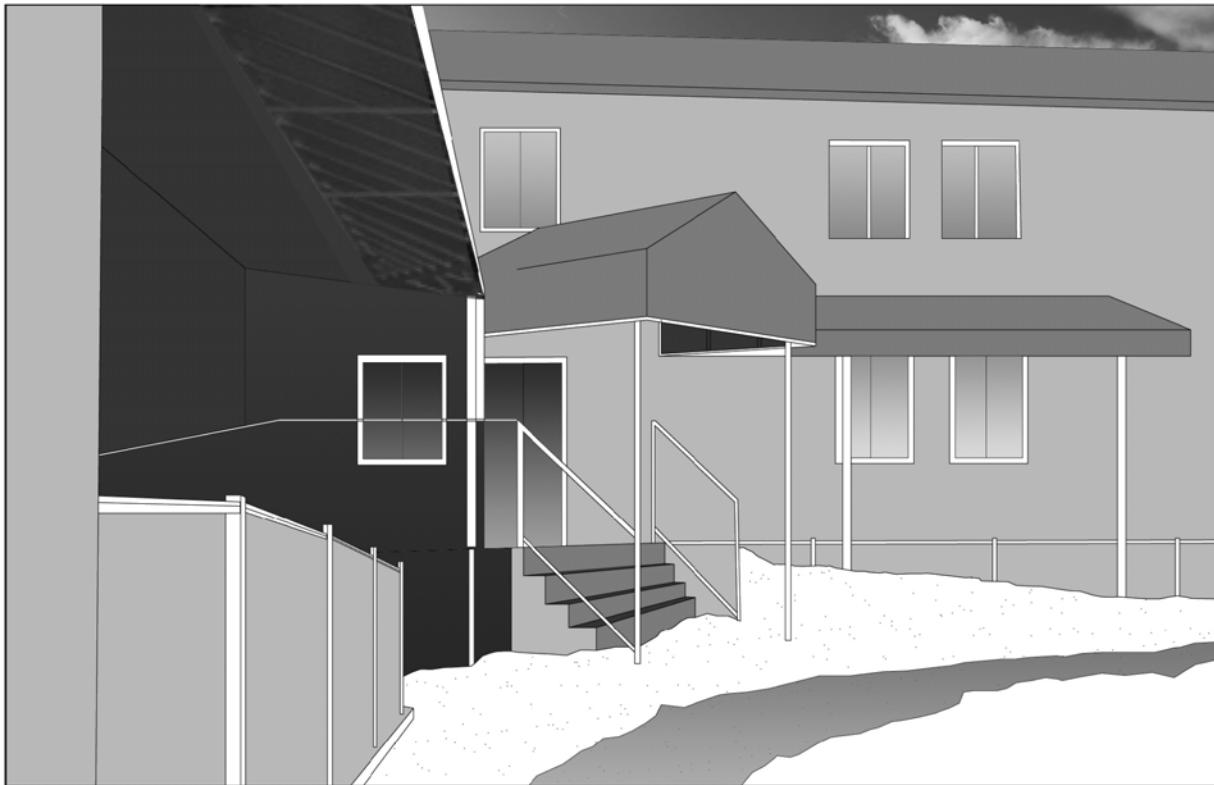
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| <b>Code</b>                  | <b>Division Name</b>        | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-----------------------------|---------------|-----------------|------------------|
| <b>11</b>                    | <b>Equipment</b>            | <b>38.43</b>  | <b>287.33</b>   | <b>1,881,402</b> |
|                              | Food Service                | 37.93         | 283.53          | 1,856,646        |
|                              | Security & Vault            | 0.51          | 3.79            | 24,755           |
| <b>15</b>                    | <b>Mechanical</b>           | <b>16.37</b>  | <b>122.39</b>   | <b>801,454</b>   |
|                              | HVAC                        | 6.07          | 45.38           | 297,064          |
|                              | Plumbing                    | 5.56          | 41.59           | 272,310          |
|                              | Refrigeration               | 4.74          | 35.44           | 232,081          |
| <b>16</b>                    | <b>Electrical</b>           | <b>7.59</b>   | <b>56.72</b>    | <b>371,331</b>   |
|                              | Basic Materials & Methods   | 0.63          | 4.74            | 30,944           |
|                              | Lighting                    | 1.26          | 9.45            | 61,888           |
|                              | Medium Voltage Distribution | 2.84          | 21.27           | 139,249          |
|                              | Service & Distribution      | 0.95          | 7.09            | 46,417           |
|                              | Special Systems             | 1.90          | 14.17           | 92,832           |
| <b>Total M &amp; E Costs</b> |                             | <b>62.39</b>  | <b>466.43</b>   | <b>3,054,185</b> |
| <b>Total Building Costs</b>  |                             | <b>100.00</b> | <b>747.60</b>   | <b>4,895,359</b> |

## DAYCARE CENTER

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### FILE 4



The D.J. Maltese Corporation, a design-build and construction management firm, was asked to look at an existing abandoned building for the possibility of expanding the adjacent daycare center. D.J. Maltese developed a conceptual plan, a preliminary cost estimate, and a design-build proposal for the project. Over the course of the next several months, the Board of Directors of Mary's Children evaluated, approved the project, signed the agreement, and asked D.J. Maltese to proceed.

By the first week of February, design development drawings were completed and the team was completing the working drawings. Permits were applied for the first week of March and were delayed by a requirement for zoning appeal for expanded usage of a daycare center. In April, the Zoning Board approved the project and building permits were issued.

The proposed plan included a small addition to the existing first floor to square off the building, a new pitched roof system, a finished basement with a kitchen and dining area, and a large storage area. The first floor included an activity area, two large bathrooms, an office, a storage area and kitchenette, a covered ramp from grade to the first floor, a covered deck area from the first floor, and a covered ramp from the existing basement to grade.

Construction started in April and was scheduled for completion in late June. However, the existing exterior siding was discovered to have asbestos fibers and testing was required, followed by remediation of the asbestos materials. This delay took about two weeks. In addition, during rough inspections, the City of Clawson stopped the project and determined that a fire suppression system had to be installed. D. J. Maltese engineered a system, installed a new 4-inch water line to the building, and installed the new system. This added several months to the project. Through the process, there were also other owner-directed changes and Board approval delays.

## DAYCARE CENTER

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| <b>Code</b>                 | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|-----------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>21</b>                   | <b>Fire Suppression</b>               | <b>2.12</b>   | <b>4.29</b>     | <b>18,290</b>    |
|                             | Water Based Fire Suppression          | 2.12          | 4.29            | 18,290           |
| <b>22</b>                   | <b>Plumbing</b>                       | <b>3.43</b>   | <b>6.92</b>     | <b>29,599</b>    |
|                             | Rough Plumbing                        | 2.06          | 4.16            | 17,765           |
|                             | Finish Plumbing                       | 1.07          | 2.16            | 9,208            |
|                             | Fixtures                              | 0.30          | 0.61            | 2,624            |
| <b>23</b>                   | <b>HVAC</b>                           | <b>4.56</b>   | <b>9.20</b>     | <b>39,341</b>    |
|                             | Equipment                             | 1.91          | 3.85            | 16,502           |
|                             | Ductwork                              | 2.65          | 5.35            | 22,838           |
| <b>26</b>                   | <b>Electrical</b>                     | <b>6.00</b>   | <b>12.10</b>    | <b>51,703</b>    |
|                             | Rough Electrical                      | 2.89          | 5.82            | 24,864           |
|                             | Finish Electrical                     | 1.28          | 2.59            | 11,052           |
|                             | Lighting                              | 1.83          | 3.70            | 15,788           |
| <b>28</b>                   | <b>Electronic Safety and Security</b> | <b>1.38</b>   | <b>2.79</b>     | <b>11,935</b>    |
|                             | Fire Alarm                            | 1.38          | 2.79            | 11,935           |
| <b>Total Building Costs</b> |                                       | <b>17.49</b>  | <b>35.32</b>    | <b>150,865</b>   |
| <b>Total Building Costs</b> |                                       | <b>100.00</b> | <b>201.83</b>   | <b>861,796</b>   |

## COMPANY HEADQUARTERS

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### FILE 5



The North Dakota Telephone Company called for flexible accommodations of 65 office workers with the potential for future expansion as well as a high-bay garage and warehouse.

The site was 10 acres of rolling prairie located on the north edge of Devils Lake, a town of 7,000. Small wetlands at the north edge of the site were the primary physical feature. The office building was sited to focus views to the wetlands from key public spaces such as the lunchroom, patio and boardroom. Entrances to the building and parking areas were located on the south side to shield them from the brutal northwest winds prevalent during the winter months in Devils Lake.

The landscaping concept blends native prairie grassland planting around the wetlands with a more formal planting scheme at the front entrance. Grassy mounds and plant materials were used to screen the parking areas from the adjoining public way.

The exterior design uses low maintenance materials such as brick and anodized aluminum window frames. The plan is laid out on a 5-foot planning module with 20- by 35-foot bays. The structural system consists of a light steel frame with bar joists supporting a metal roof deck. Exterior walls at the office portion are load-bearing heavy gauge metal studs. The garage and warehouse walls are 14-inch load-bearing brick and concrete masonry unit cavity wall construction. Because the exterior walls are load-bearing, windows at the office area consist of regularly spaced punched openings. The distinctive gable roof lobby is framed with rigid steel frames at a 5-foot center. These are made from 8-inch-wide flange beams to allow the thinnest possible section.

Open office areas have 9'6" ceilings and are illuminated with indirect fixtures suspended 18 inches below the ceiling plane. Indirect lighting was chosen to eliminate the glare on computer screens. Two technology rooms are strategically located to allow flexible distribution of data and power. Numerous outlets allow easy rearrangement of cubicles.

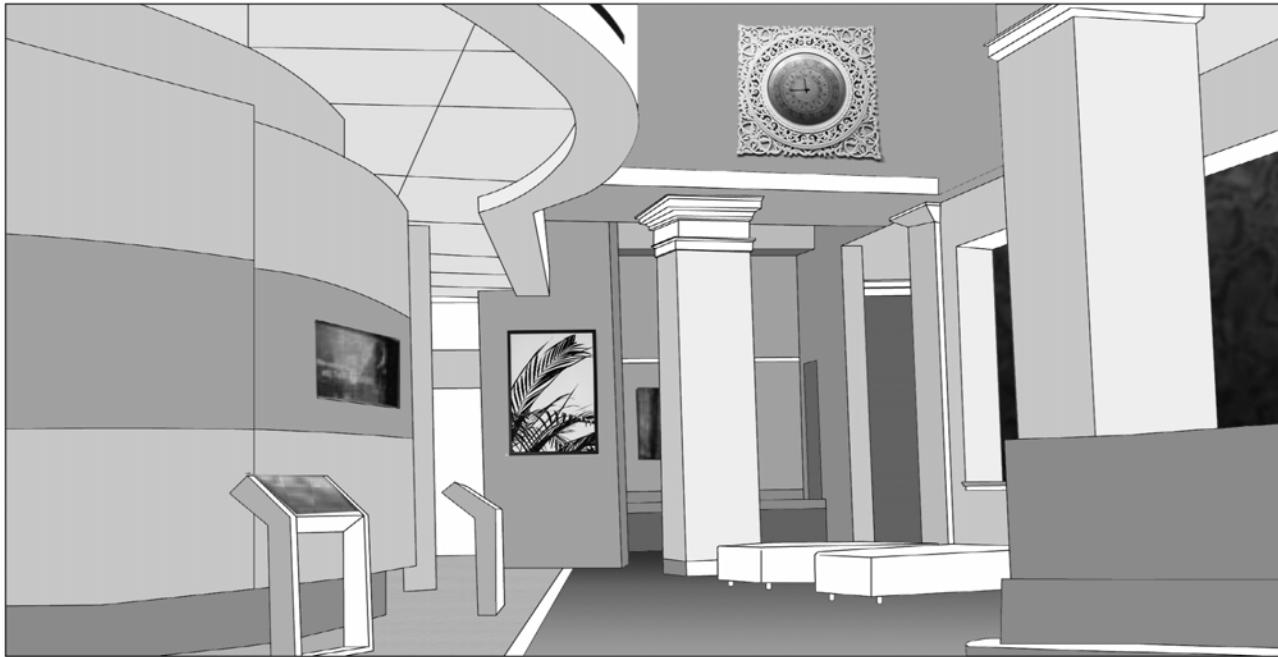
The building utilizes a ground source heat pump HVAC system. There are 45- to 150-foot-deep walls, which are located beneath the parking lot. There are 19 horizontal water to heat pumps located throughout the building. These are located either above ceilings or in Mechanical Rooms. Ventilation (outside) air is introduced into the building with a central A.H. Unit. The ventilation air is heated with an electric coil and cooled/dehumidified with a DX cooling system. A central digital control system networks all the heat pumps, heat pump thermostats, and heat pump loop circulation pumps from the owner's central room.

## COMPANY HEADQUARTERS

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| <b>Code</b>                  | <b>Division Name</b>        | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-----------------------------|---------------|-----------------|------------------|
| <b>15</b>                    | <b>Mechanical</b>           | <b>16.73</b>  | <b>41.06</b>    | <b>1,279,302</b> |
|                              | Air Distribution            | 2.73          | 6.69            | 208,422          |
|                              | Basic Materials & Methods   | 5.90          | 14.48           | 451,542          |
|                              | Change Orders               | 0.24          | 0.59            | 18,235           |
|                              | Controls                    | 1.80          | 4.42            | 137,443          |
|                              | Fire Protection             | 0.50          | 1.23            | 38,541           |
|                              | Heat Transfer               | 2.34          | 5.73            | 178,892          |
|                              | Insulation                  | 0.93          | 2.28            | 70,760           |
|                              | Plumbing                    | 1.57          | 3.85            | 120,067          |
|                              | Refrigeration               | 0.72          | 1.77            | 55,401           |
| <b>16</b>                    | <b>Electrical</b>           | <b>13.79</b>  | <b>33.83</b>    | <b>1,054,353</b> |
|                              | Basic Materials & Methods   | 7.53          | 18.47           | 575,592          |
|                              | Communications              | 0.10          | 0.23            | 7,411            |
|                              | Controls                    | 0.36          | 0.88            | 27,793           |
|                              | Electric Resistance Heating | 0.54          | 1.33            | 41,279           |
|                              | Lighting                    | 3.44          | 8.45            | 263,108          |
|                              | Medium Voltage Distribution | 0.80          | 1.95            | 61,144           |
|                              | Service & Distribution      | 0.46          | 1.14            | 35,204           |
|                              | Special Systems             | 0.56          | 1.38            | 42,821           |
| <b>Total M &amp; E Costs</b> |                             | <b>30.52</b>  | <b>74.91</b>    | <b>2,333,654</b> |
| <b>Total Building Costs</b>  |                             | <b>100.00</b> | <b>256.09</b>   | <b>7,978,787</b> |

### FILE 6



The new Aetna Customer Center is located just yards away from the geographic center of Hartford, the "insurance capital of the world." This historic building is the largest colonial-revival style in the country and was originally built in 1931. Here, cutting-edge technology plays well against the backdrop of a traditional landmark building and generates a sense of progressive service balanced with the permanence of the institution.

After completely demolishing all of the existing finishes, mechanical, electrical, and topping slabs, the new facility began in-filling the space. Due to its proximity to large meeting and office areas, special concern was paid to isolating sound and vibration so that disturbances would be kept to a minimum. The project was designed and built under the guidelines of the LEED® CI program and qualifies as a registered project. Certain elements of the original building were re-incorporated into the project, conserving resources and preserving the character of the original construction.

The extensive use of technology to present Aetna's message provided impetus to upgrade the mechanical and electrical systems of the original base building. These improvements provide a higher level of service while improving energy efficiency.

The presentation and meeting areas are complemented by several small break-out and conference areas. Additionally, the Center attends to all the needs of today's business travelers so that the comfort and focus of visitors is maintained.

The space makes excellent use of large south-facing windows by channeling the light deep into the space using the original double-height ceilings. The area was maximized by building a mezzanine space to house certain back-of-house functions and mechanical/electrical support equipment. The mezzanine space is strategically located to minimize impact on the original high ceilings and to isolate mechanical noise from the presentation areas.

A food service preparation area serves the Center via discreet routes and allows ready access to the building's central service corridor, thus allowing for full dining support without interruption of business presentations.

## CUSTOMER CENTER

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>11</b>                    | <b>Equipment</b>                      | <b>1.60</b>   | <b>10.55</b>    | <b>153,783</b>   |
|                              | Food Service                          | 0.93          | 6.11            | 89,128           |
|                              | Projection Screen/Ceiling Mounted     | 0.15          | 1.02            | 14,821           |
|                              | Projection Screen/Rear Projection     | 0.52          | 3.42            | 49,829           |
| <b>13</b>                    | <b>Special Construction</b>           | <b>5.47</b>   | <b>35.66</b>    | <b>520,311</b>   |
|                              | Sound & Vibration Isolation           | 3.22          | 21.02           | 306,825          |
|                              | Special Purpose Construction (AV)     | 2.24          | 14.62           | 213,485          |
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>2.39</b>   | <b>15.00</b>    | <b>219,002</b>   |
|                              | Fire Protection                       | 2.39          | 15.00           | 219,000          |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>1.32</b>   | <b>8.29</b>     | <b>121,265</b>   |
|                              | Plumbing                              | 1.32          | 8.29            | 121,263          |
| <b>23</b>                    | <b>HVAC</b>                           | <b>7.75</b>   | <b>48.58</b>    | <b>709,492</b>   |
|                              | HVAC                                  | 7.75          | 48.58           | 709,491          |
| <b>26</b>                    | <b>Electrical</b>                     | <b>23.29</b>  | <b>146.00</b>   | <b>2,131,452</b> |
|                              | Branch Power                          | 0.80          | 5.03            | 73,396           |
|                              | Demolition                            | 0.16          | 0.99            | 14,385           |
|                              | Distribution Equipment                | 0.28          | 1.77            | 25,843           |
|                              | Feeders                               | 0.56          | 3.51            | 51,123           |
|                              | Fixtures & Branch Wiring              | 20.14         | 126.27          | 1,843,451        |
|                              | HVAC & Motors                         | 0.28          | 1.74            | 25,277           |
|                              | Lighting Control                      | 1.01          | 6.34            | 92,454           |
|                              | Site Lighting                         | 0.06          | 0.37            | 5,518            |
| <b>27</b>                    | <b>Communications</b>                 | <b>5.74</b>   | <b>36.01</b>    | <b>525,535</b>   |
|                              | A/V Cabling                           | 0.42          | 2.64            | 38,584           |
|                              | A/V Rough-in                          | 0.23          | 1.45            | 21,400           |
|                              | Audio/Visual                          | 3.24          | 20.34           | 296,973          |
|                              | Communication Wiring & Rough-In       | 1.84          | 11.55           | 168,575          |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>3.02</b>   | <b>18.96</b>    | <b>276,677</b>   |
|                              | Fire Alarm                            | 0.66          | 4.16            | 60,777           |
|                              | Fire Alarm 2                          | 0.48          | 3.01            | 43,956           |
|                              | Security                              | 1.88          | 11.78           | 171,942          |
| <b>Total M &amp; E Costs</b> |                                       | <b>50.58</b>  | <b>319.01</b>   | <b>4,657,517</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>649.79</b>   | <b>9,486,989</b> |

## RESTAURANT

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### FILE 7



Creative Contractors, Inc. (CCI) recently completed the new Crabby's Dockside restaurant at Clearwater Beach, Florida. The restaurant broke ground on June 16, 2016 with the demolition of an existing two-story restaurant. CCI then began the construction of the new 10,000-square-foot, three-story restaurant.

The first floor features an open-bar concept, with outside seating on the open patio. It includes one of the three full-service bars, and has a seating capacity of 113. The bar face is covered with porcelain wood-like tile, with quartz countertops.

The second floor is an enclosed dining space, surrounded by expansive windows on all sides that provide an open view. This is also where the kitchen is housed, with dual lines and a service elevator for ease in serving food to the first and third floors. It incorporates another full-service bar finished with the same porcelain wood-look tile, which is also on the floor throughout the dining area. The third floor is completely open air, and provides amazing views of the beach as well as the Intracoastal Waterway. The third level has beautiful cedar wood ceilings throughout, including the canopy at the main entrance. It has the largest full-service bar of all the floors, and is finished with a quartz countertop and glass mosaic tile on the face of the bar – to mimic the colors of the Gulf of Mexico.

The restaurant officially opened on March 24, 2017, just in time to service the peak demands of the spring break crowd.

## RESTAURANT

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| <b>Code</b>                  | <b>Division Name</b>    | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b> | <b>0.74</b>   | <b>5.52</b>     | <b>55,416</b>    |
|                              | Fire Sprinkler Package  | 0.74          | 5.52            | 55,416           |
| <b>22</b>                    | <b>Plumbing</b>         | <b>8.74</b>   | <b>64.99</b>    | <b>652,833</b>   |
|                              | Plumbing                | 8.74          | 64.99           | 652,833          |
| <b>23</b>                    | <b>HVAC</b>             | <b>3.64</b>   | <b>27.06</b>    | <b>271,926</b>   |
|                              | HVAC Package            | 3.64          | 27.06           | 271,926          |
| <b>26</b>                    | <b>Electrical</b>       | <b>11.59</b>  | <b>86.14</b>    | <b>865,411</b>   |
|                              | Electrical              | 11.59         | 86.14           | 865,411          |
| <b>Total M &amp; E Costs</b> |                         | <b>24.71</b>  | <b>183.69</b>   | <b>1,845,586</b> |
| <b>Total Building Costs</b>  |                         | <b>100.00</b> | <b>743.44</b>   | <b>7,469,345</b> |

## DEALERSHIP

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### FILE 8



Proudly serving Greenville, Easley, Anderson, Pickens, Spartanburg, and surrounding areas, Kia of Greenville, South Carolina offers a well-lit and open atmosphere that helps customers feel right at home when looking for a new or used Kia or waiting for their current Kia to be serviced.

Commercial projects like Kia of Greenville have been an important component in the practice of architecture at Langley & Associates Architects, LLC.

Efficient construction techniques, straightforward building geometry, and easy-to-build detailing are essential to the success of commercial projects. This simplicity, however, does not diminish the importance of a creative image.

Kia of Greenville expresses a positive, attractive image through architectural design in order to meet marketing needs. They feel strongly that this corporate image is crucial for the success of commercial projects.

## DEALERSHIP

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| <b>Code</b>                  | <b>Division Name</b> | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|----------------------|---------------|-----------------|------------------|
| <b>22</b>                    | <b>Plumbing</b>      | <b>1.46</b>   | <b>4.42</b>     | <b>74,935</b>    |
|                              | Equipment & Fixtures | 1.46          | 4.42            | 74,935           |
| <b>23</b>                    | <b>HVAC</b>          | <b>5.75</b>   | <b>17.34</b>    | <b>294,578</b>   |
|                              | HVAC                 | 5.75          | 17.34           | 294,578          |
| <b>26</b>                    | <b>Electrical</b>    | <b>17.53</b>  | <b>52.85</b>    | <b>897,865</b>   |
|                              | Electrical           | 17.53         | 52.85           | 897,865          |
| <b>Total M &amp; E Costs</b> |                      | <b>24.74</b>  | <b>74.61</b>    | <b>1,267,378</b> |
| <b>Total Building Costs</b>  |                      | <b>100.00</b> | <b>301.49</b>   | <b>5,121,934</b> |

## CONFERENCE CENTER

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### FILE 9



The Jackson Avenue Center, referred to as "The JAC," is located just off the University of Mississippi campus on Jackson Avenue – one of Oxford's main arteries.

The second phase of a multi-phase renovation of a former big box retail space, this 45,000-square-foot renovation project created conference space, a testing center, and office space for the Division of Outreach. The renovation included new mechanical and electrical systems, total interior renovation of the existing space, exterior accessibility upgrades and multiple skylight systems, including solar control glazing on the main 110-foot-long skylight.

A "neighborhood" concept was used to create nine distinct suites for the administrative groups moving into the new facility, which share space with a new conference center and testing suite.

The addition of skylights and utilization of interior windows brought in natural light, creating not only a connection to the outdoors in the middle of the building, but also serving as a wayfinding tool for lost students seeking a guiding beacon.

## CONFERENCE CENTER

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.18</b>   | <b>3.28</b>     | <b>142,545</b>    |
|                              | Fire Suppression                      | 1.18          | 3.28            | 142,545           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>3.64</b>   | <b>10.07</b>    | <b>438,698</b>    |
|                              | Fixtures                              | 0.46          | 1.27            | 55,584            |
|                              | Gas Piping                            | 0.15          | 0.42            | 18,182            |
|                              | Hangers                               | 0.37          | 1.02            | 44,260            |
|                              | Heating Water Pipe Insulation         | 0.67          | 1.86            | 80,727            |
|                              | Heating Water Piping                  | 1.07          | 2.94            | 128,497           |
|                              | Insulation                            | 0.10          | 0.28            | 12,333            |
|                              | Mech Room Piping                      | 0.59          | 1.64            | 71,064            |
|                              | Piping Packages                       | 0.23          | 0.64            | 28,051            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>10.74</b>  | <b>29.75</b>    | <b>1,293,704</b>  |
|                              | Boilers                               | 0.63          | 1.74            | 75,532            |
|                              | Duct Insulation                       | 1.16          | 3.20            | 139,418           |
|                              | ERVs                                  | 0.81          | 2.25            | 97,880            |
|                              | Relocate Boilers                      | 0.08          | 0.23            | 9,974             |
|                              | Spiral Pipe & Air Distr               | 1.75          | 4.84            | 210,701           |
|                              | Square Duct                           | 1.74          | 4.81            | 209,018           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>18.30</b>  | <b>50.66</b>    | <b>2,204,099</b>  |
|                              | Cable Tray                            | 0.22          | 0.61            | 26,637            |
|                              | Conduit & Boxes For Sec Sys           | 0.19          | 0.52            | 22,984            |
|                              | Conduit & Wire For Fire Alarm         | 0.39          | 1.09            | 47,564            |
|                              | Conduit Boxes & Fittings              | 2.50          | 6.92            | 301,133           |
|                              | Feeder Conduit From MSB               | 0.85          | 2.34            | 101,898           |
|                              | Feeder Conduit                        | 0.52          | 1.43            | 62,793            |
|                              | Feeder Wire For MSB                   | 0.59          | 1.61            | 70,510            |
|                              | Light Fixtures                        | 10.07         | 27.87           | 1,212,604         |
|                              | Mobilization & Demolition             | 0.52          | 1.43            | 62,337            |
|                              | Switch Gear                           | 1.11          | 3.08            | 134,058           |
|                              | Wire Conduit Boxes & Fittings         | 0.81          | 2.25            | 97,541            |
|                              | Wire                                  | 0.53          | 1.47            | 64,041            |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.70</b>   | <b>1.95</b>     | <b>84,561</b>     |
|                              | Phone & Data Stubs Ups                | 0.70          | 1.95            | 84,561            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>2.43</b>   | <b>6.72</b>     | <b>292,517</b>    |
|                              | Fire Alarm Equipment                  | 2.43          | 6.72            | 292,517           |
| <b>Total M &amp; E Costs</b> |                                       | <b>13.70</b>  | <b>37.91</b>    | <b>1,649,746</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>276.83</b>   | <b>12,041,841</b> |

## WAREHOUSE & OFFICE SPACE

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### FILE 10



The Lightspeed Technologies project was the interior renovation of an existing 12,100-square-foot space. At the heart of this project is a modernized and improved entry / "core" area of the building that has an upgraded reception area, large conference room with interior storefront system, employees' café area, waiting room, and some open collaboration space that is visible to incoming visitors.

After all existing ceilings, floor finishes, window treatments, and other finishes were removed, construction started basically from a blank slate.

The staging areas, testing lab, and inventory area are finished with standard 2×4 suspended ceilings with painted drywall walls and ground and sealed floors. The offices have Armstrong Fine Fissured 2nd Look II Ceiling Tile, painted drywall walls, and Mohawk Carpet Tile.

In the core area of the building are solid surface countertops set on millwork with locally sourced reclaimed wood. The flooring consists of Mohawk Carpet Tile in the traffic areas and the lobby. In the café area, the flooring consists of Bentley LVT, walls are painted drywall, and ceilings are a combination of suspended drywall ceiling clouds and open painted structure above.

The core area features built-in benches and planters that are clad in locally sourced reclaimed lumber and allow for an open collaboration space. The café area features a kitchen with tables, chairs, built-in banquet seating, dishwasher, refrigerator, microwave, upper and lower cabinets, and an under-mount sink.

One of the other main features upon entry is the large conference room that is partitioned off partly with the slim-line PK-30 engineered aluminum glazing framework. This allows full views into the conference room through the glass wall.

Both the walls and the ceiling clouds in the core area are fitted with black accent strips of medium-density fiberboard (MDF), along with lineal lighting by PMC Lighting to offer the appearance of data flowing through a network cable.

Restroom spaces are finished with American Olean St. Germain 12×24 Floor Tile and the wet walls are finished with American Olean Color Appeal tile. Upgraded sink, water closet, and urinal fixtures are included in the restrooms as well.

The building was mostly fitted with all-new electrical, plumbing and HVAC fixtures. The building received a completely new fire alarm system that was purchased by the owner.

## WAREHOUSE & OFFICE SPACE

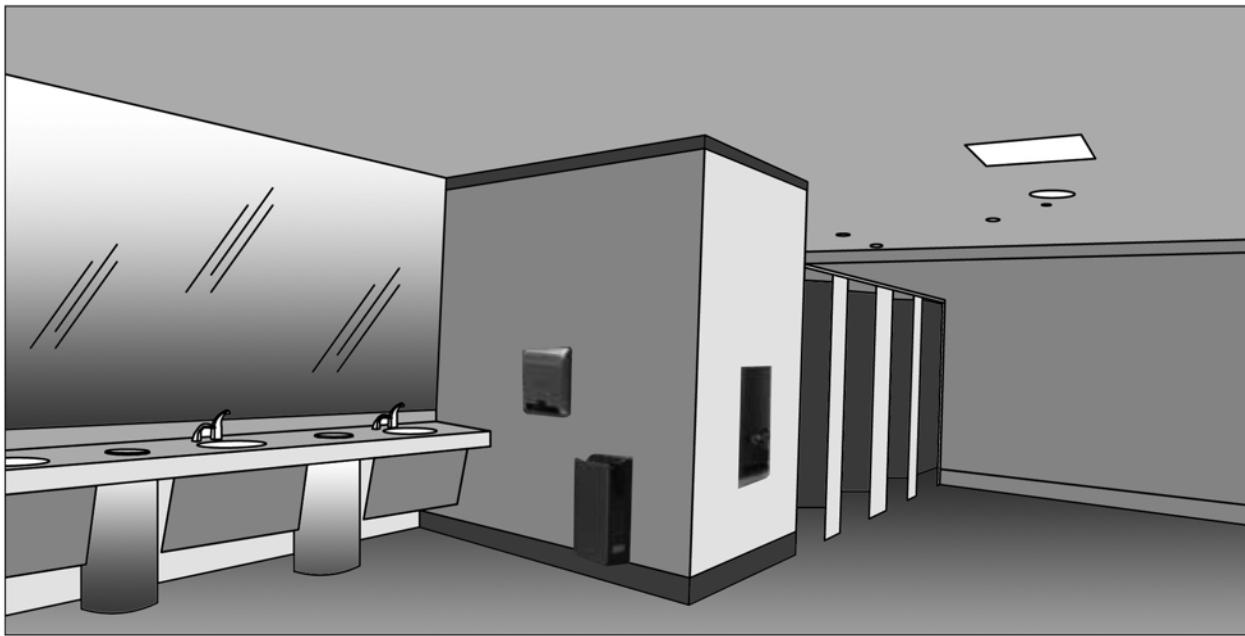
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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>22</b>                    | <b>Plumbing</b>                       | <b>3.68</b>   | <b>2.76</b>     | <b>33,569</b>    |
|                              | Piping Pumps Fixtures                 | 3.68          | 2.76            | 33,569           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>12.38</b>  | <b>9.34</b>     | <b>113,074</b>   |
|                              | Air Distribution                      | 12.38         | 9.34            | 113,074          |
| <b>26</b>                    | <b>Electrical</b>                     | <b>15.45</b>  | <b>11.65</b>    | <b>141,059</b>   |
|                              | MV Distr & Lighting                   | 15.45         | 11.65           | 141,059          |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>2.40</b>   | <b>1.82</b>     | <b>21,908</b>    |
|                              | Owner Purchase Fire Alarm             | 2.40          | 1.82            | 21,908           |
| <b>Total M &amp; E Costs</b> |                                       | <b>33.91</b>  | <b>25.57</b>    | <b>309,609</b>   |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>75.48</b>    | <b>913,274</b>   |

## AIRPORT RESTROOM

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### FILE 11



The San Diego County Regional Airport Authority awarded JXR Constructors, Inc. the Terminal 2 West Restroom Remodel Project. The project involved two large men's and women's restrooms and an all-gender restroom. Work was broken out into two phases.

The initial challenge was making sure that no passengers would be affected through construction. The restrooms were in a high visibility area and were overdue for a makeover. After working on a previous set of restrooms, Atkins Global's lead architect made more design adjustments to make these restrooms truly the best the airport had to offer.

Due to the high traffic location of the restrooms within the airport, the work was scheduled to be performed from 8pm to 5am to reduce impact to passengers and operations. Additional challenges included airport security and accessing secure areas to connect utilities.

Prior to commencing work, metal containment walls were fabricated and installed to separate the public from the work area. JXR Constructors, Inc. teamed up with McCain wall manufacturers to build the temporary aluminum walls. The airport personnel were so impressed with the walls that they started using them on subsequent projects.

Direct work in each phase involved complete interior demolition. Remodel began with rough-in of new HVAC duct and, concurrently, the installation of structural steel support for the sinks and countertops. After HVAC duct was installed, the ceiling was ready for framing and drywall. The next step was rough-in for new plumbing and electrical conduit. This was followed by new wall framing, drywall, and insulation. After that, drywall was installed on the ceilings and walls. The desired wall tile patterns were then installed.

Wall and floor tile activities took five weeks for each restroom. The large 2'×2' white and black composite floor tiles went in faster. After the tile, the countertops, toilet partitions and accessories were installed; plumbing finishes, lighting fixtures, and new HVAC grilles followed.

Work on each phase was completed and accepted by the Airport Authority prior to beginning the next phase. The project was completed on schedule, within budget, and with zero accidents reported.

## AIRPORT RESTROOM

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| <b>Code</b>                  | <b>Division Name</b>          | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-------------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>       | <b>0.39</b>   | <b>2.56</b>     | <b>6,950</b>     |
|                              | Water Based Fire Suppress Sys | 0.39          | 2.56            | 6,950            |
| <b>22</b>                    | <b>Plumbing</b>               | <b>7.49</b>   | <b>48.79</b>    | <b>132,212</b>   |
|                              | Piping & Pumps                | 4.34          | 28.28           | 76,607           |
|                              | Equipment                     | 0.79          | 5.13            | 13,902           |
|                              | Fixtures                      | 2.36          | 15.40           | 41,705           |
| <b>23</b>                    | <b>HVAC</b>                   | <b>5.76</b>   | <b>37.53</b>    | <b>101,692</b>   |
|                              | Diffusers Registers Grilles   | 5.51          | 35.92           | 97,312           |
|                              | Test Adjust Balance           | 0.25          | 1.61            | 4,379            |
| <b>26</b>                    | <b>Electrical</b>             | <b>10.63</b>  | <b>69.25</b>    | <b>187,675</b>   |
|                              | Medium Voltage Distr          | 7.48          | 48.73           | 132,068          |
|                              | Low Voltage Transmission      | 0.39          | 2.56            | 6,950            |
|                              | Lighting                      | 2.76          | 17.96           | 48,657           |
| <b>Total M &amp; E Costs</b> |                               | <b>24.27</b>  | <b>158.13</b>   | <b>428,529</b>   |
|                              |                               |               |                 |                  |
| <b>Total Building Costs</b>  |                               | <b>100.00</b> | <b>651.57</b>   | <b>1,765,773</b> |

## HOTEL RENOVATION

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### FILE 12



In July of 2017, Gundlach Champion was hired by H.J. Larson and Associates to be the construction manager of their Holiday Inn hotel renovation. Construction on the 191-room hotel began in September of 2017. The project was to be completed over the course of 17 months, and done in five individual phases while the hotel was still occupied with staff and guests. The entire exterior was removed and replaced with steel studs, an air and moisture barrier and an Exterior Insulation Finish System (EIFS).

Every guest room, guest bathroom, hallway and stairwell was stripped down to the bearing walls and refinished. The guest bathrooms had the bathtubs, toilets, and sink removed and replaced. All guest room furniture, appliances, TVs, artwork and beds were replaced.

The contractors had to work closely with the staff to coordinate shutdowns of water and electricity so the new systems wouldn't disrupt the hotel guests. The front entrance and drive-through canopy were completely removed, and a new canopy and front entrance was constructed. The front desk was temporally relocated during construction so the hotel could stay operational while the lobby and staff offices were renovated.

This Holiday Inn is a full-service hotel that has a restaurant, bar, conference rooms, and meeting rooms. These rooms were also part of the renovation. The bar was moved into the restaurant, and the dining room was redesigned to fit the new bar in the existing space.

The dining room was renovated and brought up to current building code standards. The restaurant and bar are now used to cater summer weddings that are held in the beautiful South Courtyard. The renovation for these areas was constructed around the busy wedding season, and the results were well worth the effort.

## HOTEL RENOVATION

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>06</b>                    | <b>Wood, Plastics, and Composites</b> | <b>0.09</b>   | <b>0.10</b>     | <b>12,497</b>     |
|                              | Sauna                                 | 0.09          | 0.10            | 12,497            |
| <b>10</b>                    | <b>Specialties</b>                    | <b>1.68</b>   | <b>1.88</b>     | <b>223,365</b>    |
|                              | Bath & Toilet Accessories             | 1.68          | 1.88            | 223,365           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>5.87</b>   | <b>6.59</b>     | <b>783,139</b>    |
|                              | Labor                                 | 3.17          | 3.56            | 422,214           |
|                              | Fixtures                              | 2.71          | 3.03            | 360,925           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>8.75</b>   | <b>9.82</b>     | <b>1,165,856</b>  |
|                              | Guest Room PTACS                      | 4.85          | 5.44            | 646,941           |
|                              | Air Distr                             | 2.31          | 2.59            | 307,808           |
|                              | Labor                                 | 1.58          | 1.78            | 211,107           |
| <b>25</b>                    | <b>Integrated Automation</b>          | <b>0.69</b>   | <b>0.78</b>     | <b>92,614</b>     |
|                              | Instrumentation & Terminal Dvc        | 0.43          | 0.49            | 57,203            |
|                              | Fac Controls                          | 0.27          | 0.29            | 35,411            |
| <b>26</b>                    | <b>Electrical</b>                     | <b>7.85</b>   | <b>8.81</b>     | <b>1,046,001</b>  |
|                              | MV Distr                              | 1.46          | 1.64            | 194,764           |
|                              | Lighting                              | 6.39          | 7.17            | 851,238           |
| <b>27</b>                    | <b>Communications</b>                 | <b>1.25</b>   | <b>1.40</b>     | <b>166,162</b>    |
|                              | Data                                  | 0.98          | 1.10            | 130,751           |
|                              | Distr Comm & Monitoring Sys           | 0.27          | 0.29            | 35,411            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.56</b>   | <b>1.75</b>     | <b>208,383</b>    |
|                              | Access Control & Intrusion Dect       | 1.56          | 1.75            | 208,383           |
| <b>Total M &amp; E Costs</b> |                                       | <b>27.74</b>  | <b>31.13</b>    | <b>3,698,016</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>112.22</b>   | <b>13,330,565</b> |

### FILE 13



Hinterhof (which means "backyard") is a vegan German restaurant, bar, and beer garden in the Highland Park neighborhood of Los Angeles, California.

Aesthetically, the main challenge for the project was to capture the look, feel, and spirit of a historical German food establishment in a contemporary Southern Californian design culture and geographic climate.

To heighten the social impact, the garden is placed adjacent to the boulevard and the restaurant is situated to the rear. Patrons walk through the laughter of the beer garden upon entering Hinterhof. Planted with native species, the garden envelopes visitors in the ongoing conversations as they walk in. The interiors are designed to engage the lineage of the beer hall through material selection and detailing. Tables, display cases, and lighting were designed and fabricated to complete the overall impression of the space. The result is a fusion mixture of Los Angeles and Berlin that provides the eclectic background of a hip vegan German food establishment in modern Los Angeles.

This is not a traditional German restaurant. The floor is concrete, the decor is minimalist, and the soundtrack is subdued. There is no loud polka music playing in the background. If you're expecting to escape to Bavaria, think again. This is a modern, hip Berlin-style German restaurant transplanted to chic, sunny Los Angeles.

Aaron Neubert Architects, Inc. designed Hinterhof, which includes a 75-seat interior dining hall and a bar evoking traditional German social halls. The 30-seat exterior beer garden poetically connects to the visual and spatial history of Berlin backyard spaces and gatherings, and serves as the focal point and entrance.

The primary technical challenge, in addition to the City of Los Angeles' standard zoning restrictions affecting restaurant/bar development, was the building's high seismic requirements. These restraints required extensive geotechnical analysis and engineering solutions to ensure the building would survive the "big one" when it occurs.

## RESTAURANT/BAR

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>11</b>                    | <b>Equipment</b>                      | <b>13.84</b>  | <b>41.42</b>    | <b>86,991</b>    |
|                              | Foodservice                           | 13.84         | 41.42           | 86,991           |
| <b>12</b>                    | <b>Furnishings</b>                    | <b>0.70</b>   | <b>2.10</b>     | <b>4,398</b>     |
|                              | Casework                              | 0.70          | 2.10            | 4,398            |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>9.04</b>   | <b>27.07</b>    | <b>56,858</b>    |
|                              | Piping & Pumps                        | 0.92          | 2.76            | 5,802            |
|                              | Equipment                             | 7.90          | 23.65           | 49,663           |
|                              | Fixtures                              | 0.22          | 0.67            | 1,393            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>8.61</b>   | <b>25.78</b>    | <b>54,143</b>    |
|                              | Air Distribution                      | 2.80          | 8.37            | 17,591           |
|                              | Central HVAC Equipment                | 5.81          | 17.41           | 36,552           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>7.48</b>   | <b>22.39</b>    | <b>47,014</b>    |
|                              | Medium-Voltage Distribution           | 4.71          | 14.09           | 29,588           |
|                              | Low-Voltage Transmission              | 0.46          | 1.38            | 2,900            |
|                              | Lighting                              | 2.31          | 6.91            | 14,524           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.15</b>   | <b>0.44</b>     | <b>926.72</b>    |
|                              | Data                                  | 0.15          | 0.44            | 926.72           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.54</b>   | <b>1.60</b>     | <b>3,365</b>     |
|                              | Access Control & Intrusion Detection  | 0.35          | 1.05            | 2,204            |
|                              | Detection & Alarm                     | 0.18          | 0.55            | 1160.96          |
| <b>44</b>                    | <b>Pollution Control Equipment</b>    | <b>1.38</b>   | <b>4.15</b>     | <b>8,703</b>     |
|                              | Solid Waste Control                   | 1.38          | 4.15            | 8,703            |
| <b>Total M &amp; E Costs</b> |                                       | <b>41.74</b>  | <b>124.94</b>   | <b>262,399</b>   |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>299.39</b>   | <b>628,730</b>   |

## TRANSPORTATION MAINTENANCE CENTER

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### FILE 14



The Transportation Maintenance Center was completed in 2023 by SLA Architects. This facility provides storage and maintenance facilities for the City's Falls Ride bus system as well as Rolling Plains Management Corporation's (RPMC) SHARP Lines Rural Transportation.

The Wichita Falls Transit System, Falls Ride, provides public transportation for the City of Wichita Falls and its residents. SHARP Lines Rural Public Transportation is a rural public transportation program and non-emergency medical transportation service for residents of Archer, Baylor, Cottle, Foard, Hardeman, Jack, rural Wichita, Wilbarger, and Young counties. Destinations include shopping centers, beauty/barber shops, social service agencies, and medical clinics.

The project scope includes administrative offices for the City of Wichita Falls Transportation staff and RPMC staff, maintenance facilities, parking, both covered and uncovered, for both organization's fleet, and bus washing area and fueling station. The site is designed to handle the capacity of as many as forty-three transit vehicles of various sizes. Access control and surveillance systems are utilized for both the site and all buildings.

The 8,468-square-foot administrative building includes multiple offices for RPMC SHARP Lines, Falls Ride, Wichita Falls Metropolitan Planning Organization and the DAV Chapter 41 staff, along with a shared conference/training room, break room, and secure vault. The design also includes a wellness room with fitness equipment and shower facilities. A dispatch office is located right off the lobby area. Adjacent to the administrative building, and connected with a covered walk, is the maintenance repair building. The 11,426-square-foot building consists of seven drive-thru bays, parts and tire storage areas, mechanics' offices, and mechanics' work area.

## TRANSPORTATION MAINTENANCE CENTER

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.16</b>   | <b>9.10</b>     | <b>181,066</b>    |
|                              | Fire Suppression                      | 1.16          | 9.10            | 181,066           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>4.01</b>   | <b>31.55</b>    | <b>627,695</b>    |
|                              | Mobilization Submittal                | 0.15          | 1.21            | 24,142            |
|                              | Plumbing Rough In                     | 3.94          | 30.95           | 615,624           |
|                              | Plumbing Fixtures & Trim              | 0.93          | 7.28            | 144,853           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>7.06</b>   | <b>55.46</b>    | <b>1,103,401</b>  |
|                              | HVAC Rough In                         | 2.39          | 18.81           | 374,203           |
|                              | HVAC Trim                             | 0.15          | 1.21            | 24,142            |
|                              | Exhaust System Duct                   | 0.40          | 3.18            | 63,217            |
|                              | Solar Panels                          | 4.10          | 32.26           | 641,839           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>10.31</b>  | <b>81.03</b>    | <b>1,612,103</b>  |
|                              | Cord Reels                            | 0.23          | 1.81            | 35,926            |
|                              | Feeders                               | 0.49          | 3.86            | 76,883            |
|                              | Fire Alarm                            | 0.31          | 2.47            | 49,234            |
|                              | Fixtures                              | 1.69          | 13.29           | 264,477           |
|                              | Floor Boxes                           | 0.02          | 0.18            | 3,537             |
|                              | Gear                                  | 0.78          | 6.11            | 121,587           |
|                              | Generator                             | 0.98          | 7.72            | 153,676           |
|                              | HVAC & Equipment                      | 0.18          | 1.43            | 28,505            |
|                              | Lightning Protection                  | 0.74          | 5.82            | 115,769           |
|                              | Rough                                 | 1.93          | 15.14           | 301,238           |
|                              | Site Electrical                       | 2.30          | 18.09           | 359,964           |
|                              | Trim                                  | 0.65          | 5.09            | 101,307           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.50</b>   | <b>3.94</b>     | <b>78,408</b>     |
|                              | Access Control CCTV                   | 0.50          | 3.94            | 78,408            |
| <b>Total M &amp; E Costs</b> |                                       | <b>23.04</b>  | <b>181.08</b>   | <b>3,602,673</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>786.05</b>   | <b>15,637,772</b> |

## POLICE-FIRE FACILITY

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### FILE 15



The City of Winters, a rural community in northern California, had the vision and foresight to seek Redevelopment Bonds for a new Police and Fire Facility. The proposed project would not only provide much needed working facilities for the police and fire departments, but also serve as a catalyst for new businesses to come to City of Winters.

A Needs Assessment projected a 45,000-square-foot facility for a 25-year build-out for the facility, which would house both departments. The new facility replaces the existing Winters Fire Station 26, and the existing police department, located adjacent to City Hall, in the original Fire Station 26 location. Priorities for the new facility included functionality, energy efficiency, low maintenance, and aesthetics. The facility will serve as the City's Emergency Operations Center and Training Center, and historically is used for community events.

Set amongst residences and fronting a state highway, with close proximity to town, the new City of Winters Police-Fire Facility shares the site with a city well building, a city lift station, and a new 140-foot-high communications tower.

The site includes Training Grounds, an underground drafting pit, and secured covered parking for patrol cars. A third separate pre-engineered metal building serves as an out building, ±5,758 square feet, and houses the city's collection of antique fire apparatus, provides a bay for vehicle maintenance of the fire engines, and also provides large item storage for the police department.

The two-story element breaks up the horizontal massing of the surrounding one-story elements, by providing an animated and varied vertical massing scheme, with dominant roofline profiles. The wall planes of the one-story elements are broken up by attached roof awnings, over walkways and carports, and the apparatus doors for the fire engines.

The one-story metal building elements have a concrete masonry wainscot with pre-finished vertical, metal siding above; the metal siding is red, at the fire department, and blue, at the police department. The two-story element has a clay masonry wainscot, with accent striping to provide scale to the building, and with pre-finished vertical, metal siding above. The historic Winters Bell and flagpoles are incorporated into the design.

## POLICE-FIRE FACILITY

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.68</b>   | <b>3.76</b>     | <b>166,290</b>   |
|                              | Fire Sprinkler                        | 1.68          | 3.76            | 166,290          |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>5.45</b>   | <b>12.19</b>    | <b>540,243</b>   |
|                              | Plumbing Underground No-Hub           | 0.77          | 1.72            | 76,216           |
|                              | Underground Trench Drain              | 0.70          | 1.56            | 69,288           |
|                              | Topout Waste                          | 0.70          | 1.56            | 69,288           |
|                              | Topout Water                          | 0.47          | 1.06            | 46,770           |
|                              | Topout Gas                            | 0.45          | 1.01            | 45,037           |
|                              | Finish Material                       | 0.56          | 1.25            | 55,430           |
|                              | Finish Labor                          | 0.19          | 0.42            | 19,054           |
|                              | Hydronics                             | 1.49          | 3.33            | 147,235          |
|                              | Change Orders                         | 0.12          | 0.27            | 11,928           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>8.33</b>   | <b>18.64</b>    | <b>825,930</b>   |
|                              | Air Balance                           | 0.26          | 0.59            | 25,984           |
|                              | Change Orders                         | 0.38          | 0.86            | 37,788           |
|                              | Controls Finish                       | 0.30          | 0.67            | 29,448           |
|                              | Copper Refer Lines                    | 0.14          | 0.31            | 13,857           |
|                              | Duct Insulation                       | 0.30          | 0.67            | 29,448           |
|                              | HVAC                                  | 3.93          | 8.79            | 389,740          |
|                              | HVAC Refrigerant                      | 0.10          | 0.24            | 10,394           |
|                              | Labor Equipment Install               | 0.35          | 0.79            | 34,643           |
|                              | Labor Material                        | 1.50          | 3.37            | 148,966          |
|                              | Rough In                              | 0.30          | 0.67            | 29,448           |
|                              | Set Grilles                           | 0.14          | 0.31            | 13,857           |
|                              | Sheet Metal                           | 0.52          | 1.16            | 51,965           |
|                              | Start Up                              | 0.10          | 0.24            | 10,394           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>9.49</b>   | <b>21.24</b>    | <b>940,993</b>   |
|                              | Fixtures                              | 1.92          | 4.30            | 190,538          |
|                              | Switch Gear Panelboards Material      | 0.52          | 1.16            | 51,965           |
|                              | Site Underground                      | 2.97          | 6.66            | 294,472          |
|                              | Underslab Rough In                    | 0.61          | 1.37            | 60,626           |
|                              | Wall & Ceiling Rough In               | 1.49          | 3.33            | 147,235          |
|                              | Trim Out                              | 1.05          | 2.36            | 103,930          |
|                              | Change Orders                         | 0.93          | 2.07            | 92,224           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.65</b>   | <b>1.46</b>     | <b>64,343</b>    |
|                              | CCTV                                  | 0.44          | 0.99            | 43,305           |
|                              | Change Orders                         | 0.21          | 0.47            | 21,039           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>2.09</b>   | <b>4.68</b>     | <b>207,608</b>   |
|                              | Fire Alarm                            | 0.44          | 0.99            | 43,305           |
|                              | Security Alarm                        | 0.44          | 0.99            | 43,305           |
|                              | Access Control                        | 1.05          | 2.36            | 103,930          |
|                              | Change Orders                         | 0.17          | 0.38            | 17,069           |
| <b>Total M &amp; E Costs</b> |                                       | <b>27.69</b>  | <b>61.95</b>    | <b>2,745,407</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>223.64</b>   | <b>9,910,413</b> |

## PUBLIC SAFETY COMPLEX

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### FILE 16



The Mobile, Alabama, Public Safety Complex, designed by John Dendy & Associates, Architects, was constructed in response to the City of Mobile's expansion towards the Regional Airport. The public safety super station includes Police Precinct No. 5 and the Fire & Rescue Station.

The air space cone of the Regional Airport's runway dictated the building's location and height. The architect situated the new complex on 3.5 acres. The site gently slopes 6 feet across to the west to meet the airport property.

During design, the color selection became a major issue, as the initial concept was a light color as part of the energy design. However, with the building location near the airport runway approach, the selection needed to be a dark non-reflective color. The architect chose a standing seam metal roof by McElroy Roofing. Bradco Supply of Pensacola, Fla. also provided technical support including wind load detailing and material coordination which supplied the roof.

The complex is subdivided into four distinct areas: the Police Precinct, common public spaces, the Fire and Rescue Department, and the Truck Bay/Garage. The center includes an on-site power generation facility giving the complex the ability to serve as a shelter and emergency operations center in the event of a hurricane or disaster. The design and construction also had to meet very strict environment standards as City vehicles are fueled on-site.

The Public Safety Complex is a secured, fully digital facility, completely connected to the City data and communications network, and will serve as a link of the public safety transition into the 21st century.

## PUBLIC SAFETY COMPLEX

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| <b>Code</b>                  | <b>Division Name</b>                | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-------------------------------------|---------------|-----------------|-------------------|
| <b>11</b>                    | <b>Equipment</b>                    | <b>5.85</b>   | <b>21.80</b>    | <b>620,531</b>    |
|                              | Kitchen                             | 0.28          | 1.04            | 29,345            |
|                              | Dishwasher in Police Breakroom      | 0.06          | 0.20            | 5,848             |
|                              | Rotate Ice Machine                  | 0.01          | 0.03            | 898               |
|                              | Breathing Station                   | 1.09          | 4.04            | 115,121           |
|                              | Fuel Tank                           | 4.43          | 16.47           | 469,320           |
| <b>21</b>                    | <b>Fire Suppression</b>             | <b>1.20</b>   | <b>4.45</b>     | <b>126,911</b>    |
|                              | Fire Protection                     | 1.20          | 4.45            | 126,911           |
| <b>22</b>                    | <b>Plumbing</b>                     | <b>9.04</b>   | <b>33.64</b>    | <b>957,957</b>    |
|                              | Exterior Water & Sewer              | 3.63          | 13.50           | 384,699           |
|                              | Flooding System                     | 0.56          | 2.07            | 58,888            |
|                              | Plumbing                            | 4.85          | 18.06           | 514,369           |
| <b>23</b>                    | <b>HVAC</b>                         | <b>12.35</b>  | <b>45.98</b>    | <b>1,309,290</b>  |
|                              | HVAC                                | 12.15         | 45.24           | 1,288,329         |
|                              | Motorized Louver at Generator Bldg. | 0.20          | 0.73            | 20,960            |
| <b>26</b>                    | <b>Electrical</b>                   | <b>14.02</b>  | <b>52.19</b>    | <b>1,486,268</b>  |
|                              | Electrical                          | 10.43         | 38.84           | 1,106,054         |
|                              | ROW Electric                        | 1.48          | 5.50            | 156,860           |
|                              | Fiber Optic Conduit                 | 0.13          | 0.49            | 14,299            |
|                              | Additional PVC for Fiber Optics     | 0.08          | 0.28            | 8,074             |
|                              | Additional Mastarm Conduit          | 0.04          | 0.18            | 4,698             |
|                              | Credit for Mastarm Sign             | (0.01)        | (0.03)          | (1023)            |
|                              | Change Gas to Elec Space Heaters    | 0.62          | 2.32            | 65,816            |
|                              | Additional Outlets                  | 0.06          | 0.22            | 6,144             |
|                              | Changes to MIS Room                 | 0.06          | 0.20            | 5,874             |
|                              | Generator Change                    | 0.15          | 0.58            | 16,101            |
|                              | Power to Future Front Sign          | 0.06          | 0.24            | 6,849             |
|                              | Additional Outlets in MIS Room      | 0.01          | 0.03            | 1106              |
|                              | Blocking                            | 0.02          | 0.06            | 1,795             |
|                              | MIS Room & Elec Changes             | 0.34          | 1.27            | 36,301            |
|                              | Relocated Outlets in Bunk           | 0.01          | 0.03            | 861               |
|                              | Conduit Sleeves in MIS              | 0.02          | 0.06            | 1,841             |
|                              | Electrical Changes                  | 0.22          | 0.81            | 23,116            |
|                              | Additional Electric Front Millwork  | 0.03          | 0.09            | 3,082             |
|                              | GFI Outlets at Engine Bay           | 0.02          | 0.06            | 1,795             |
|                              | GFI Breaker Engine Bay Cords        | 0.03          | 0.08            | 2,653             |
|                              | Additional Electrical Items         | 0.03          | 0.09            | 3,037             |
|                              | Raise Bay Lights                    | 0.07          | 0.26            | 7,201             |
|                              | Close Out                           | 0.01          | 0.05            | 1,536             |
|                              | Electrical Work at Reel Cords       | 0.12          | 0.42            | 12,196            |
| <b>Total M &amp; E Costs</b> |                                     | <b>42.46</b>  | <b>158.04</b>   | <b>4,500,957</b>  |
| <b>Total Building Costs</b>  |                                     | <b>100.00</b> | <b>372.25</b>   | <b>10,601,472</b> |

## ARTISAN GATEWAY

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### FILE 17



Developed from a vision to showcase southwest Virginia's unique artisan culture, Heartwood fulfills its mission by providing a destination for artisans and tourists alike to explore this beautiful, vibrant part of Virginia. Spectrum Design was commissioned to bring the community's vision to realization with a building that would promote Southwest Virginia's local artisans and showcase the Southwest Virginia landscape.

The formal qualities of the building were inspired by the vernacular farm buildings in the region. Abstracted traditional forms are combined with unexpected materials providing a juxtaposition of familiar shapes and modern construction. The predominant form-maker is a square module based on the section of a traditional gambrel roof form. The module was rotated and mirrored, providing the organizational plan for the main level. The rotation of the module allows for a multitude of views and captures light from different directions in each of the galleries. As visitors enter the facility they are able to flow easily to gallery spaces or through the main lobby and octagonal performance space to one of the many outdoor spaces.

The two-level facility houses five 1,000-square-foot galleries that form the wings of the main level. The gallery spaces feature continuous glass walls that provide a connection between interior and exterior exhibits as well as the flexibility to combine galleries for large exhibits. Galleries are provided with computers that display electronic portfolios for each artisan, complete with contact information and driving directions to their studios. The center of the facility features a performance area under an octagonal structure. Featuring a chandelier created by a local artisan, this space allows for large gatherings. The adjacent outdoor plaza gives the performance area a beautiful mountainous backdrop as well as overflow space. The main level also includes a commercial sales space for artisan work, a kitchen facility and a café featuring locally grown cuisine. The lower level of the building houses approximately 2,000 square feet of storage space and administrative offices, as well as a freight elevator and loading dock.

Creating an environmentally sensitive building was an integral part of the design process. Spectrum felt that it was imperative to protect the natural beauty that the building is showcasing. Heartwood is LEED® certified with the U.S. Green Building Council. The building features a closed loop geothermal well HVAC system, low VOC materials, low flow and waterless plumbing fixtures, and an abundance of daylighting. Additionally, a filtering system collects and recycles rainwater for toilet flushing and irrigation. The landscape design features native and indigenous plants and includes a chef's garden and collaborative plantings with student horticulturists.

## ARTISAN GATEWAY

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| <b>Code</b>                  | <b>Division Name</b>               | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|------------------------------------|---------------|-----------------|-------------------|
| <b>10</b>                    | <b>Specialties</b>                 | <b>0.86</b>   | <b>5.17</b>     | <b>155,441</b>    |
|                              | Toilet Partitions                  | 0.21          | 1.28            | 38,395            |
|                              | Fire Extinguishers & Cabinets      | 0.05          | 0.31            | 9,299             |
|                              | Toilet Accessories                 | 0.12          | 0.70            | 21,334            |
|                              | Signage                            | 0.40          | 2.43            | 72,868            |
|                              | Projection Screens                 | 0.07          | 0.45            | 13,545            |
| <b>11</b>                    | <b>Equipment</b>                   | <b>2.01</b>   | <b>12.10</b>    | <b>362,842</b>    |
|                              | Food Service Equipment             | 2.01          | 12.10           | 362,842           |
| <b>21</b>                    | <b>Fire Suppression</b>            | <b>1.22</b>   | <b>7.36</b>     | <b>220,964</b>    |
|                              | Fire Protection                    | 1.22          | 7.36            | 220,964           |
| <b>22</b>                    | <b>Plumbing</b>                    | <b>3.10</b>   | <b>18.68</b>    | <b>560,792</b>    |
|                              | Plumbing Mobilization              | 0.03          | 0.15            | 4,655             |
|                              | Waste/Vent Labor                   | 0.37          | 2.20            | 66,345            |
|                              | Waste/Vent Materials               | 0.53          | 3.19            | 95,794            |
|                              | Supply Labor                       | 0.46          | 2.76            | 82,641            |
|                              | Supply Materials                   | 0.61          | 3.66            | 109,876           |
|                              | Fixtures Labor                     | 0.31          | 1.89            | 56,334            |
|                              | Fixtures Materials                 | 0.80          | 4.84            | 145,144           |
| <b>23</b>                    | <b>HVAC</b>                        | <b>5.89</b>   | <b>35.43</b>    | <b>1,063,200</b>  |
|                              | HVAC Mobilization                  | 0.04          | 0.24            | 6,984             |
|                              | Equipment Labor                    | 0.39          | 2.33            | 69,837            |
|                              | Equipment Materials                | 2.23          | 13.43           | 402,726           |
|                              | Ductwork Labor                     | 0.80          | 4.81            | 144,330           |
|                              | Ductwork Materials                 | 1.21          | 7.30            | 218,822           |
|                              | Piping Labor                       | 0.32          | 1.93            | 58,198            |
|                              | Piping Materials                   | 0.56          | 3.37            | 100,858           |
|                              | Insulation Labor                   | 0.16          | 0.95            | 28,867            |
|                              | Insulation Materials               | 0.18          | 1.08            | 32,579            |
| <b>26</b>                    | <b>Electrical</b>                  | <b>11.22</b>  | <b>67.53</b>    | <b>2,026,045</b>  |
|                              | Electrical Mobilization            | 0.06          | 0.40            | 11,639            |
|                              | Equipment Labor                    | 0.37          | 2.20            | 66,281            |
|                              | Equipment Materials                | 2.09          | 12.57           | 376,892           |
|                              | Conduit/Wire Labor                 | 1.37          | 8.22            | 246,697           |
|                              | Conduit/Wire Materials             | 1.21          | 7.30            | 218,822           |
|                              | Lighting Labor                     | 0.59          | 3.52            | 105,727           |
|                              | Lighting Materials                 | 5.50          | 33.14           | 993,884           |
|                              | Temp Electrical Wiring             | 0.03          | 0.20            | 6,099             |
| <b>48</b>                    | <b>Electrical power Generation</b> | <b>2.47</b>   | <b>14.84</b>    | <b>445,548</b>    |
|                              | Geothermal System                  | 2.47          | 14.84           | 445,548           |
| <b>Total M &amp; E Costs</b> |                                    | <b>26.77</b>  | <b>161.15</b>   | <b>4,834,831</b>  |
| <b>Total Building Costs</b>  |                                    | <b>100.00</b> | <b>602.15</b>   | <b>18,064,895</b> |

## MUNICIPAL CENTER

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### FILE 18



The Newtown Municipal Center is three new facilities located in one historic building. The back half of the old fire house has been renovated as Village offices and conference space. Council chambers now occupy the former fire truck bay in the front of the building. With the design help of the Cincinnati Museum Center and a grant from the Ohio Cultural Facilities Commission, the Municipal Center houses a new American Indian Education Center which surrounds Council chambers.

The Education Center incorporates museum displays which chronicle the rich history of the Prehistoric Native Americans who lived in the Little Miami River Valley prior to the settlement of Newtown. The space was designed to accommodate group lectures and multimedia presentations as well, and is open for touring school groups and the general public.

The original stone engraving over the door on the front of the building has been highlighted to commemorate the Baptist Church congregation that originally built and occupied the building. Now in its third life, the building was designed with an open ceiling in the former sanctuary/fire-truck bay. This reveals the rugged craftsmanship of the Church's hand-hewn trusses. The wood support for the former steeple is also now visible above the new vestibule.

Energy efficiency was considered wherever practical. The Municipal Center is now insulated to meet today's standards. LED light fixtures have been installed throughout the building, using less energy and generating less heat, thereby reducing air-conditioning costs. In addition, high efficiency glass shields the Museum exhibits from ultra-violet rays while maximizing daylight.

## MUNICIPAL CENTER

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| <b>Code</b>                  | <b>Division Name</b>          | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-------------------------------|---------------|-----------------|------------------|
| <b>22</b>                    | <b>Plumbing</b>               | <b>4.73</b>   | <b>11.58</b>    | <b>58,801</b>    |
|                              | Demolition                    | 0.14          | 0.35            | 1,764            |
|                              | Underground                   | 0.71          | 1.73            | 8,820            |
|                              | Above Ground DWV              | 0.71          | 1.73            | 8,820            |
|                              | Above Ground Water            | 1.18          | 2.91            | 14,701           |
|                              | Water Line Insulation         | 0.09          | 0.24            | 1,176            |
|                              | Fixtures                      | 1.89          | 4.63            | 23,521           |
| <b>23</b>                    | <b>HVAC</b>                   | <b>15.33</b>  | <b>37.56</b>    | <b>190,687</b>   |
|                              | HVAC Original Design          | 15.33         | 37.56           | 190,687          |
| <b>26</b>                    | <b>Electrical</b>             | <b>16.87</b>  | <b>41.32</b>    | <b>209,768</b>   |
|                              | General Conditions            | 0.87          | 2.12            | 10,821           |
|                              | Mobilization & Demobilization | 0.54          | 1.32            | 6,660            |
|                              | Shop Drawings & Submittals    | 0.27          | 0.65            | 3,328            |
|                              | Temporary Power               | 0.20          | 0.49            | 2,499            |
|                              | Demolition                    | 0.33          | 0.82            | 4,161            |
|                              | Lighting Labor                | 0.74          | 1.79            | 9,157            |
|                              | Lighting Material             | 4.75          | 11.64           | 59,101           |
|                              | Gear Labor                    | 0.27          | 0.65            | 3,328            |
|                              | Gear Material                 | 0.67          | 1.65            | 8,324            |
|                              | Conduit Labor                 | 3.48          | 8.52            | 43,284           |
|                              | Conduit Material              | 2.40          | 5.86            | 29,801           |
|                              | Wire Labor                    | 0.95          | 2.33            | 11,822           |
|                              | Wire Material                 | 0.54          | 1.32            | 6,660            |
|                              | Devices Labor                 | 0.13          | 0.33            | 1,665            |
|                              | Devices Material              | 0.08          | 0.19            | 999              |
|                              | Fire Alarm Labor              | 0.16          | 0.40            | 1,997            |
|                              | Fire Alarm Material           | 0.50          | 1.22            | 6,158            |
| <b>Total M &amp; E Costs</b> |                               | <b>36.93</b>  | <b>90.46</b>    | <b>459,255</b>   |
| <b>Total Building Costs</b>  |                               | <b>100.00</b> | <b>244.97</b>   | <b>1,243,754</b> |

## LIBRARY EXPANSION

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### FILE 19



From conception, the design team sought to create a focal point for community engagement, to expand economic opportunities by preserving the existing downtown character, and to create a modern library.

The space was constructed to house over 75,000 books. In addition to having specific reading spaces for separate age groups and having advanced technology center availability, the entire lower level of the library serves as a storefront for new business.

Both the construction and design process for the 23,000-square-foot facility received LEED® points for:

**Sustainable Site** (site selection, development density and community connectivity, low-emitting and fuel efficient vehicle involvement, quality control of storm water management and heat island effect for the roof)

**Water Efficiency** (water efficient landscaping and water use reduction)

**Energy and Atmosphere** (optimize energy performance and enhanced refrigerant management)

**Materials and Resources** (construction waste management, recycled content, regional materials, and certified wood)

**Indoor Environmental Quality** (IAQ performance, outdoor air delivery monitoring, IAQ management plan, low-emitting materials: paints and coatings, low emitting materials: carpet systems, thermal comfort design, thermal comfort verification, daylight and views: daylight for 75% of spaces, and daylight and views: views for 90% of spaces)

**Innovation and Design Process** (construction application, design application, and LEED accredited professional).

While the project envisioned new economic and community horizons from its inception, it did not overlook significant traditions long held dear by its community. In the final days before the grand opening, many volunteers gathered to help transfer books by hand to the new location. This much anticipated Book Brigade was held just a few days prior to doors being opened to the public for the very first time. Excited locals showed up to participate, including Mary Plumb—retired Crozet Librarian—and the third and fourth grade classes from Crozet Elementary School.

## LIBRARY EXPANSION

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>0.83</b>   | <b>4.10</b>     | <b>95,121</b>     |
|                              | Wet Pipe Sprinkler Systems            | 0.83          | 4.10            | 95,121            |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>1.94</b>   | <b>9.61</b>     | <b>223,116</b>    |
|                              | Mobilization                          | 0.04          | 0.18            | 4,201             |
|                              | Mechanical UG                         | 0.25          | 1.24            | 28,814            |
|                              | Rough In                              | 1.17          | 5.80            | 134,382           |
|                              | Rough In Sub (Insulation/Fire Stop)   | 0.18          | 0.91            | 21,021            |
|                              | Fixtures                              | 0.30          | 1.50            | 34,698            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>14.65</b>  | <b>72.52</b>    | <b>1,682,474</b>  |
|                              | Rough In                              | 0.99          | 4.88            | 113,169           |
|                              | Rough In Sub (Insul/Fire Stop)        | 0.23          | 1.16            | 26,906            |
|                              | Equipment                             | 7.74          | 38.30           | 888,447           |
|                              | Equipment Sub (Crane)                 | 0.05          | 0.24            | 5,478             |
|                              | Duct Fabrication                      | 1.07          | 5.27            | 122,388           |
|                              | Sheetmetal Install                    | 0.76          | 3.78            | 87,470            |
|                              | Sheetmetal Install Sub (Ins/FS)       | 0.06          | 0.31            | 6,920             |
|                              | Close Out I                           | 0.10          | 0.47            | 11,183            |
|                              | Close Out Sub (Air Balance)           | 0.17          | 0.82            | 19,177            |
|                              | Controls                              | 3.50          | 17.31           | 401,335           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>11.90</b>  | <b>58.92</b>    | <b>1,366,808</b>  |
|                              | LV Ele Pwr Conduct/Cables             | 1.29          | 6.41            | 148,660           |
|                              | Grd/Bonding For Ele Sys               | 0.07          | 0.37            | 8,317             |
|                              | Hangers/Supports Ele Sys              | 0.37          | 1.83            | 42,341            |
|                              | Raceway/Boxes Ele Sys                 | 1.65          | 8.15            | 189,384           |
|                              | Identification Ele Sys                | 0.04          | 0.18            | 4,022             |
|                              | Lighting Control Devices              | 0.04          | 0.22            | 5,021             |
|                              | LV Transformers                       | 0.09          | 0.46            | 10,600            |
|                              | Panel Boards                          | 0.39          | 1.92            | 44,680            |
|                              | Wiring Devices                        | 0.09          | 0.42            | 9,783             |
|                              | Fuses                                 | 0.00          | 0.01            | 239               |
|                              | Enclosed Switch/Circuit Breaker       | 0.04          | 0.19            | 4,566             |
|                              | Enclosed Controllers                  | 0.06          | 0.32            | 7,392             |
|                              | Surge Protect of LV Ele Pwr Crc       | 0.03          | 0.15            | 3,858             |
|                              | Interior Lighting                     | 7.25          | 35.85           | 831,956           |
|                              | Exterior Lighting                     | 0.40          | 2.00            | 46,419            |
|                              | Site Electrical                       | 0.08          | 0.41            | 9,565             |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.35</b>   | <b>1.72</b>     | <b>39,896</b>     |
|                              | Digital/Addr/Fire Alarm Sys           | 0.35          | 1.72            | 39,896            |
| <b>Total M &amp; E Costs</b> |                                       | <b>29.67</b>  | <b>146.87</b>   | <b>3,407,415</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>494.95</b>   | <b>11,482,336</b> |

## DISTRICT FIRE HEADQUARTERS

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### FILE 20



The selected site of the new District Fire Department headquarters, while located on a major state highway route in town, was also in an area that was a mixture of small office buildings and residential housing. It was also essential that the new building maintain the low, residential scale of the neighborhood and repeat building materials prevalent in the area. Multiple roof pitches were selected to keep the building mass residential, and the building facade and windows were divided into smaller areas to achieve the desired appearance. The vehicle access onto the state road required a new traffic signal and expansion of a system that would allow preemption of other signals along the road.

Because no existing storm drainage was in the vicinity, and the grade of the site and surrounding areas prevented extension of any drainage to the site, nearly 10% of the project budget was absorbed in handling on-site storm water drainage. In addition, the department was going to be the central dispatch location for several departments in the area. Therefore, a new radio tower was included in the project, together with an environmentally-controlled electronic equipment base facility, for the communication gear associated with the system. This accounted for approximately another 15% of the original project budget.

The department owned six pieces of equipment which had been housed in the original three-bay building. It was decided to prepare for the future, and four double bays were provided in the new apparatus room. A full exhaust ventilation system was provided for all eight-bay locations, which includes magnetically-attached exhaust hoses that traverse the entire length of the bay and automatically release upon building exit. A 1,300-square-foot mezzanine off the apparatus bay houses mechanical equipment and provides space for gear storage.

Bunk facilities for up to six firefighters, a dayroom and a full kitchen are provided for the resident firefighters. The kitchen and dayroom act as an emergency shelter for fifty people when the need arises. The building can be fully operated on the emergency generator provided as part of this project.

The dispatch office also has its own bunkroom and toilet. The office is prominently located forward of the front facade of the building. This gives the dispatcher full view of the main street and all of the front apparatus bay doors. In addition, its predominant location makes access for the public to the building (which is adjacent to the dispatch office) easily recognizable. The building houses office areas, meeting rooms and storage for the department chief and the officers of the five fire companies of the department.

## DISTRICT FIRE HEADQUARTERS

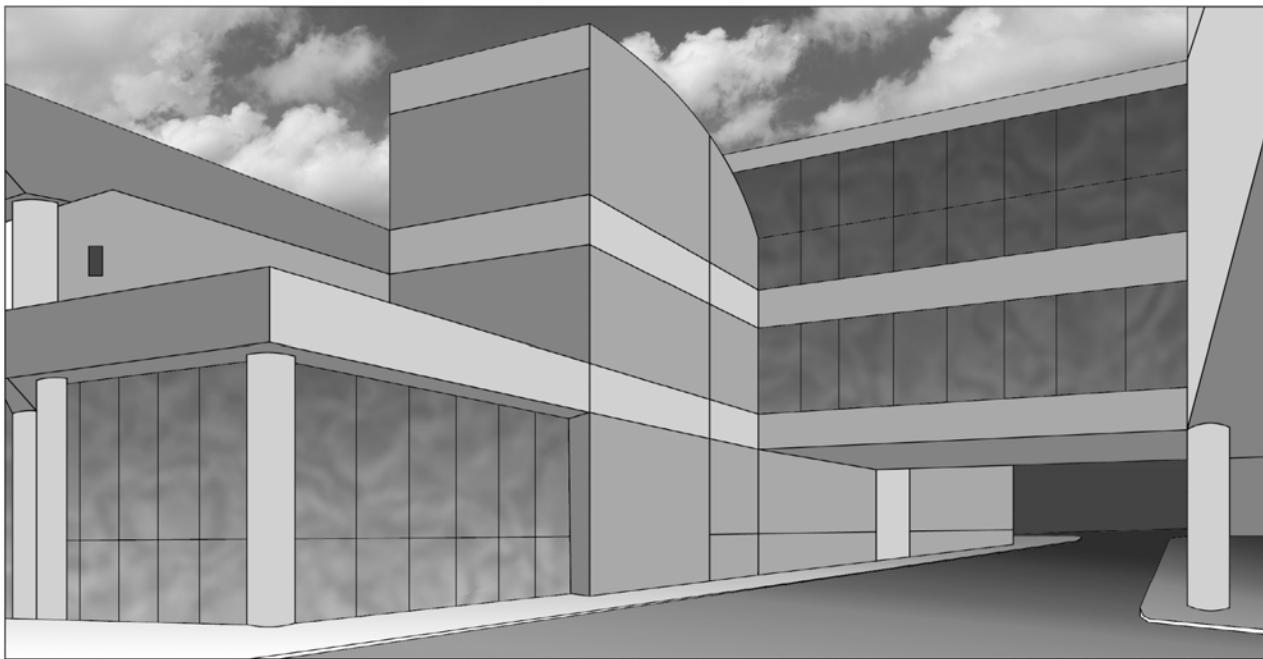
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| <b>Code</b>                  | <b>Division Name</b>               | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|------------------------------------|---------------|-----------------|------------------|
| <b>10</b>                    | <b>Specialties</b>                 | <b>1.78</b>   | <b>5.49</b>     | <b>60,788</b>    |
|                              | Toilet & Bath Accessories          | 1.78          | 5.49            | 60,788           |
| <b>11</b>                    | <b>Equipment</b>                   | <b>0.66</b>   | <b>2.02</b>     | <b>22,546</b>    |
|                              | Food Service                       | 0.66          | 2.02            | 22,546           |
| <b>15</b>                    | <b>Mechanical</b>                  | <b>19.02</b>  | <b>58.50</b>    | <b>647,850</b>   |
|                              | Basic Materials & Methods          | 0.43          | 1.32            | 14,700           |
|                              | Controls                           | 1.73          | 5.31            | 58,799           |
|                              | Fire Protection                    | 0.12          | 0.37            | 4,084            |
|                              | HVAC                               | 8.55          | 26.30           | 291,229          |
|                              | Plumbing                           | 7.83          | 24.08           | 266,693          |
|                              | Refrigeration                      | 0.26          | 0.81            | 8,819            |
|                              | Testing, Adjusting & Balancing     | 0.10          | 0.32            | 3,529            |
| <b>16</b>                    | <b>Electrical</b>                  | <b>17.56</b>  | <b>53.99</b>    | <b>597,955</b>   |
|                              | Basic Materials & Methods          | 1.55          | 4.77            | 52,919           |
|                              | Communications                     | 1.39          | 4.29            | 47,492           |
|                              | Electrical                         | 0.22          | 0.68            | 7,350            |
|                              | Lighting                           | 5.57          | 17.13           | 189,642          |
|                              | Power Generation - Built-Up System | 3.66          | 11.26           | 124,741          |
|                              | Service & Distribution             | 5.16          | 15.87           | 175,811          |
| <b>Total M &amp; E Costs</b> |                                    | <b>39.02</b>  | <b>120.01</b>   | <b>1,329,138</b> |
| <b>Total Building Costs</b>  |                                    | <b>100.00</b> | <b>307.55</b>   | <b>3,405,809</b> |

## TERMINAL LANDSIDE EXPANSION

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### FILE 21



Dramatic increases in air travel in recent years provided the opportunity for the Metropolitan Nashville Airport Authority (MNAA) to explore comprehensive improvements. Some of these improvements were needed now, while some could no doubt reduce congestion in the future.

A major concern for GHP was developing documents that clearly addressed the phasing of the work. Phasing was required to minimize the impact of construction and allow all facets of airport operations to continue during that period. Ultimately, this translated to a construction period of 2 years.

The Terminal Landside Expansion project has doubled the footprint of the existing short-term parking garage to the east and added a third level to more than double the parking capacity, which allowed rental operations to expand. Ground transportation roadways have also been rerouted and a new ramp added at the rear of the garage to accommodate additional short-term parking users. In addition, the new roadway was routed through the west end of the garage at ground level to accommodate hotel and long-term parking shuttles, which eases congestion of the primary ground transportation roadway for taxis and through traffic. Large, air-conditioned waiting areas were also added to create comfortable accommodations for airport users waiting for shuttles.

The primary roadway at the ground transportation level (between short-term garage and the terminal building) had been modified to accommodate more lanes for through traffic and curbside parking. Elaborate landscaping and planting designs were incorporated to soften the hard edges of the garage and bridges. To accommodate the expansion for the rental car operations within the terminal, the building was expanded at the ground level to allow the addition of checkout counters. This expansion provided the opportunity to renovate and upgrade finishes in the existing terminal.

For arrivals and departures, the width of the existing bridges at both the Ticketing and Baggage Claim levels were doubled. Pedestrian bridges were added at the two upper levels to link the Terminal Building with the expanded short-term garage.

While complex, the Terminal Landside Expansion project was completed on schedule and within budget. All the goals of MNAA were met and the facility is more user-friendly as a result. In addition, pedestrian and vehicular traffic flow patterns have been enhanced, capacities improved, and provisions made for future expansion.

## TERMINAL LANDSIDE EXPANSION

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| <b>Code</b>                  | <b>Division Name</b>                 | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>   |
|------------------------------|--------------------------------------|---------------|-----------------|--------------------|
| <b>15</b>                    | <b>Mechanical</b>                    | <b>2.60</b>   | <b>2.88</b>     | <b>2,627,037</b>   |
|                              | Basic Materials & Methods            | 0.22          | 0.24            | 217,599            |
|                              | Controls                             | 0.15          | 0.17            | 147,085            |
|                              | Fire Protection                      | 0.10          | 0.12            | 104,234            |
|                              | HVAC                                 | 0.22          | 0.24            | 217,864            |
|                              | Mechanical Insulation                | 0.05          | 0.05            | 49,563             |
|                              | Plumbing                             | 1.86          | 2.06            | 1,880,954          |
|                              | Testing, Adjusting & Balancing       | 0.01          | 0.01            | 9,740              |
| <b>16</b>                    | <b>Electrical</b>                    | <b>17.39</b>  | <b>19.35</b>    | <b>17,587,182</b>  |
|                              | Basic Electrical Materials & Methods | 7.20          | 8.01            | 7,281,216          |
|                              | Controls                             | 0.01          | 0.01            | 9,654              |
|                              | Lighting                             | 6.79          | 7.56            | 6,863,158          |
|                              | Service & Distribution               | 0.46          | 0.51            | 464,056            |
|                              | Special Systems                      | 2.94          | 3.26            | 2,969,100          |
| <b>Total M &amp; E Costs</b> |                                      | <b>19.99</b>  | <b>22.23</b>    | <b>20,214,220</b>  |
| <b>Total Building Costs</b>  |                                      | <b>100.00</b> | <b>111.26</b>   | <b>101,117,330</b> |

### FILE 22



The site for the Madison Branch Library provided several acres of park-like green space, including full and mature trees, that Gobbell Hays Partners (GHP) was able to retain.

The linear quality of the site dictated a long, linear design. The one-story design is based on a radius (curve), with the library transecting the radius from east to west. The dry-stack stone wall of natural fieldstone follows the curve, beginning outside the library as an exterior design element, then continuing through the building as an interior feature, forming division walls to define various spaces. The arc, carried through with the stone wall and with a bulkhead at the ceiling plane, gives a visual connection from one end of the building to the other.

The stained concrete floor follows the motif of circles and curves. The concrete flooring is used in high-traffic areas of the building. The pleasing, mottled effect in earth tones gives a change from the more traditional carpeted areas.

The children's area is a highlight of the building. Using a concept based on the C.S. Lewis book, *The Lion, The Witch, and the Wardrobe*, the design features a cedar-lined "wardrobe" wall through which children walk when entering the story room for story time. The young adult area has a more contemporary atmosphere, reflected by the furnishings and finishes.

A design challenge was to design a building that complements the neighborhood, and to blend the new structure with the stone churches, cemeteries, and other architectural features of the Madison area. This was accomplished in part through the choice of the materials. The use of natural materials enhances the feeling of warmth and familiarity indigenous to this area, and natural tones create a welcoming atmosphere for reading. The use of stone signifies the stability of the community and of the library. Other materials selected for the project were exposed metal deck and ductwork, steel trusses, red brick, stained concrete, metal roof, and split-face block.

Colors for the building, from carpet to stone to upholstery, were all coordinated to provide a natural look inside the building. This natural look is highlighted with blue and amber pendant lights.

The civic building is a strong image that features modern sculptural forms, soaring lines and curves inside and outside, contemporary systems, state-of-the-art technology, and an open and airy plan which is convenient and inviting to the user, all in the context of the distinctive Madison neighborhood. The innovative design met a strict budget, unusual site constraints, and very specific programmatic requirements.

## LIBRARY

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>10</b>                    | <b>Specialties</b>                    | <b>1.86</b>   | <b>7.10</b>     | <b>149,444</b>   |
|                              | Toilet & Bath Accessories             | 1.86          | 7.10            | 149,444          |
| <b>13</b>                    | <b>Special Construction</b>           | <b>0.58</b>   | <b>2.21</b>     | <b>46,449</b>    |
|                              | Fire Suppression & Supervisory System | 0.58          | 2.21            | 46,449           |
| <b>15</b>                    | <b>Mechanical</b>                     | <b>15.81</b>  | <b>60.22</b>    | <b>1,267,744</b> |
|                              | Basic Materials & Methods             | 0.28          | 1.05            | 22,403           |
|                              | Fire Protection                       | 2.78          | 10.60           | 223,373          |
|                              | Fixtures                              | 0.44          | 1.69            | 35,526           |
|                              | HVAC                                  | 3.14          | 11.98           | 252,178          |
|                              | Insulation                            | 1.11          | 4.22            | 88,808           |
|                              | Plumbing                              | 7.91          | 30.13           | 634,479          |
|                              | Testing, Adjusting & Balancing        | 0.14          | 0.52            | 10,977           |
| <b>16</b>                    | <b>Electrical</b>                     | <b>10.69</b>  | <b>40.73</b>    | <b>857,683</b>   |
|                              | Basic Materials & Methods             | 3.14          | 11.97           | 252,029          |
|                              | Communications                        | 1.74          | 6.62            | 139,324          |
|                              | Controls                              | 0.69          | 2.62            | 55,035           |
|                              | Lighting                              | 4.20          | 16.01           | 336,897          |
|                              | Switch Gear                           | 0.93          | 3.53            | 74,395           |
| <b>Total M &amp; E Costs</b> |                                       | <b>28.94</b>  | <b>110.27</b>   | <b>2,321,318</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>380.93</b>   | <b>8,020,955</b> |

## PUBLIC SAFETY FACILITY

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### FILE 23



The Village of Scarsdale's Police and Fire Departments recently moved into their newly renovated and expanded Public Safety Facility. The new headquarters, situated on 0.99 acres in the Village, incorporated 17,250 square feet of renovations to the existing facility, built in 1924, and a 9,000-square-foot addition. This new addition effectively and seamlessly ties into the existing 1924 facility paying tribute to Scarsdale's police and firefighting history.

The design of the facility by Peter F. Gaito Architects, Engineers and Planners, cleverly satisfies all of the present and future expansion needs of both departments. Special attention was paid to the flow of public and private traffic as well as noise level concerns and multi-use flexible spaces. Also, the design fulfills all of the program requirements, including a commercial kitchen, male and female bath, shower and locker facilities, various offices for the Chiefs, Inspectors, Tour Commanders, Detectives and other officers. The facility also includes a new dispatch center, multi-purpose rooms, an audio-visual training room, exercise room, comfortable living quarters, various equipment and clerical storage areas, an underground 3-lane firing range, and miscellaneous support spaces as well as a mini-museum to include a "wall of history."

Additionally, the Public Safety Headquarters project includes a series of improved exterior and interior design features. The energy-efficient building includes an established street presence to signify the building as the Scarsdale Public Safety Facility: a tower to serve as a visual roof icon. In keeping with the character of many of the homes and buildings in the Village, the design of the exterior incorporated the use of an EIFS stucco system and half-timbering to maintain the contextual Tudor style. A careful organization of interior space was designed so that police and fire activities do not interfere with the public and office environment. An additional apparatus bay for the fire department was also incorporated to accommodate a future pumper fire engine. Completely new telecommunications systems were installed in the new facility using CAT 6 cabling throughout as well as fiber optic cabling, a UPS system and the integration of security, fire, 911, intercommunications, audio-visual and building automation systems. The facility was also equipped with a diesel-powered 300 KW emergency generator.

**PUBLIC SAFETY FACILITY**

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| <b>Code</b> | <b>Division Name</b>                 | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|-------------|--------------------------------------|---------------|-----------------|-------------------|
| <b>22</b>   | <b>Plumbing</b>                      | <b>7.96</b>   | <b>48.81</b>    | <b>1,281,253</b>  |
|             | Backflows                            | 0.11          | 0.69            | 18,070            |
|             | Bonds & Insurance                    | 0.26          | 1.59            | 41,828            |
|             | Change Orders                        | 1.34          | 8.22            | 215,479           |
|             | Demo                                 | 0.22          | 1.34            | 35,135            |
|             | Excavation                           | 0.12          | 0.77            | 20,077            |
|             | Fixtures                             | 0.57          | 3.51            | 92,022            |
|             | Gas                                  | 0.42          | 2.55            | 66,925            |
|             | Insulation                           | 0.17          | 1.05            | 27,606            |
|             | Miscellaneous                        | 0.71          | 4.33            | 113,772           |
|             | Sanitary                             | 1.04          | 6.36            | 166,976           |
|             | Sprinkler                            | 1.84          | 11.28           | 296,141           |
|             | Storm                                | 0.25          | 1.55            | 40,657            |
|             | Water                                | 0.66          | 4.02            | 105,573           |
|             | Water Heaters                        | 0.25          | 1.56            | 40,992            |
| <b>23</b>   | <b>HVAC</b>                          | <b>10.80</b>  | <b>66.27</b>    | <b>1,739,348</b>  |
|             | A/C                                  | 1.30          | 7.96            | 209,140           |
|             | Miscellaneous                        | 1.83          | 11.21           | 294,469           |
|             | Building Mgt System                  | 0.52          | 3.17            | 83,656            |
|             | Change Orders                        | 0.97          | 5.98            | 156,581           |
|             | Electric Cab Htrs Wall Htrs          | 0.31          | 1.92            | 50,194            |
|             | Firing Range Ventilation System      | 1.82          | 11.16           | 292,796           |
|             | Pipe Duct Insulation                 | 0.78          | 4.79            | 125,482           |
|             | Registers Grills Diffusers L&M       | 0.31          | 1.92            | 50,194            |
|             | RTAC                                 | 0.57          | 3.51            | 92,022            |
|             | Sheetmetal Ductwork                  | 1.77          | 10.84           | 284,429           |
|             | Vehicle Exhaust System               | 0.31          | 1.92            | 50,194            |
| <b>26</b>   | <b>Electrical</b>                    | <b>19.70</b>  | <b>120.84</b>   | <b>3,172,110</b>  |
|             | Access Control                       | 0.59          | 3.64            | 95,451            |
|             | Branch Circuits                      | 2.23          | 13.71           | 359,718           |
|             | CCTV & Access Control                | 1.87          | 11.51           | 301,829           |
|             | Change Orders                        | 1.47          | 9.01            | 236,684           |
|             | Electrical Service                   | 0.73          | 4.47            | 117,119           |
|             | Equipment                            | 1.62          | 9.95            | 261,005           |
|             | Fire Alarm                           | 1.16          | 7.13            | 187,388           |
|             | Generator Equipment                  | 2.41          | 14.80           | 388,163           |
|             | Lightning Protection                 | 0.88          | 5.40            | 142,216           |
|             | Low Volt. Main Bldg Closet Buildouts | 2.13          | 13.09           | 343,603           |
|             | Miscellaneous                        | 2.88          | 17.70           | 464,539           |
|             | Site Lighting                        | 0.54          | 3.32            | 87,002            |
|             | Switchgear                           | 0.68          | 4.15            | 108,753           |
|             | Switchgear Feeders                   | 0.49          | 3.00            | 78,638            |
|             | <b>Total M &amp; E Costs</b>         | <b>38.46</b>  | <b>235.92</b>   | <b>6,192,710</b>  |
|             | <b>Total Building Costs</b>          | <b>100.00</b> | <b>613.54</b>   | <b>16,105,612</b> |

## COUNTY SHERIFF'S OFFICE

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### FILE 24



The county commission owned a lot measuring 106 by 87 feet within a block of the county courthouse in the historic downtown business district. The proximity to the 1891 courthouse was a deciding factor for locating a new Sheriff's Building at the southeast corner of two main streets.

Sandwiched between the courthouse and the site is a station for the town's Personal Rapid Transit System (PRT). The lot beneath the PRT is utilized for parking by the sheriff's office. The building's site was already constrained to the north and east by the overhead rails and the PRT Station. The site was also extremely steep, resulting in a vertical rise of 18 feet the length of the site.

The police/prisoner function is accessed through a carport with a vehicular entry from the multi-lane avenue through town. All of the prisoner/police activities are contained in the ground floor of the building. The ground floor has a central corridor separating the prisoner area from the evidence area, helping to preserve the chain of custody of evidence, with pass-thru evidence lockers from the report room to the evidence room.

The general public/sheriff side of the program has its entrance on the first floor. The entrance is 17 feet above the carport entrance and on the opposite side of the building.

The interior materials include large-format porcelain ceramic and mosaic tile, carpet tile and broadloom, painted gypsum board and smooth-filled ground, and highly polished concrete masonry units. Lighting is controlled by manual on and automatic off switching, with several illuminated coves defining the lobby and conference room.

The completed design breaks up the mass of a single building into multiple layers through the use of materials and fenestration to differentiate the levels, exits and entrances of the building.

The red brick entrance, matching the Courthouse annex, with its roof parapet adorned with a traditional overhanging cornice, echoes the materials and features utilized in the historic structures nearby. Other materials include textured insulated metal panels, two colors of filled, ground and polished CMU, and natural colored precast architectural elements. The windows are clear mill aluminum frame with insulated low-E green tinted glazing.

Filling the site to capacity, at the juncture of historic downtown buildings and newer modern development, the facades proclaim that the County has entered a new century.

**COUNTY SHERIFF'S OFFICE**

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.03</b>   | <b>4.17</b>     | <b>132,091</b>    |
|                              | Sprinkler                             | 1.03          | 4.17            | 132,091           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>5.55</b>   | <b>22.55</b>    | <b>713,719</b>    |
|                              | Coordination Drawings                 | 0.07          | 0.27            | 8,522             |
|                              | Elevator Sump                         | 0.04          | 0.17            | 5,112             |
|                              | Finishes                              | 0.33          | 1.34            | 42,610            |
|                              | Floor Drains Cleanouts                | 0.33          | 1.34            | 42,610            |
|                              | Grease Interceptor                    | 0.07          | 0.27            | 8,522             |
|                              | Insulation                            | 0.26          | 1.08            | 34,089            |
|                              | Mobilization                          | 0.13          | 0.54            | 17,044            |
|                              | Plumbing                              | 2.26          | 9.19            | 291,027           |
|                              | Plumbing Fixtures                     | 1.26          | 5.12            | 161,917           |
|                              | Roof Drains                           | 0.13          | 0.54            | 17,044            |
|                              | Water Heaters Circulation Pumps       | 0.66          | 2.70            | 85,221            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>14.57</b>  | <b>59.25</b>    | <b>1,874,843</b>  |
|                              | Miscellaneous                         | 1.24          | 5.03            | 159,276           |
|                              | Boilers                               | 1.06          | 4.31            | 136,352           |
|                              | Chiller                               | 0.72          | 2.91            | 92,038            |
|                              | Controls                              | 1.88          | 7.65            | 242,196           |
|                              | Equipment Air Handling                | 1.11          | 4.52            | 143,169           |
|                              | HVAC                                  | 3.87          | 15.73           | 497,687           |
|                              | Hydronic Piping                       | 2.47          | 10.02           | 317,325           |
|                              | Hydronic Pumps & Equip                | 0.26          | 1.08            | 34,089            |
|                              | Insulation                            | 1.08          | 4.38            | 138,516           |
|                              | Sheet Metal Diffusers Fans            | 0.60          | 2.43            | 76,698            |
|                              | VAV                                   | 0.29          | 1.18            | 37,496            |
| <b>26</b>                    | <b>Electrical</b>                     | <b>9.14</b>   | <b>37.16</b>    | <b>1,175,761</b>  |
|                              | Branch Power                          | 0.71          | 2.91            | 91,950            |
|                              | General Conditions                    | 0.11          | 0.46            | 14,420            |
|                              | Generator Package                     | 0.56          | 2.28            | 71,918            |
|                              | Lighting Fixtures                     | 3.52          | 14.30           | 452,411           |
|                              | Lightning Protection                  | 0.10          | 0.38            | 12,422            |
|                              | Mechanical                            | 0.37          | 1.51            | 47,766            |
|                              | Miscellaneous                         | 1.82          | 7.40            | 234,193           |
|                              | Switchgear                            | 1.95          | 7.92            | 250,680           |
| <b>27</b>                    | <b>Communications</b>                 | <b>1.58</b>   | <b>6.41</b>     | <b>203,014</b>    |
|                              | Camera Card Access                    | 1.02          | 4.13            | 130,684           |
|                              | Data                                  | 0.50          | 2.04            | 64,581            |
|                              | Paging System                         | 0.06          | 0.24            | 7,750             |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.58</b>   | <b>2.38</b>     | <b>75,080</b>     |
|                              | Fire Alarm                            | 0.58          | 2.38            | 75,080            |
| <b>Total M &amp; E Costs</b> |                                       | <b>32.45</b>  | <b>131.93</b>   | <b>4,174,509</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>406.50</b>   | <b>12,863,756</b> |

## FIRE STATION

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### FILE 25



Fire Station #6 serves the University Drive corridor and Texas A&M University. This modern facility enhances the commercial district it inhabits while embracing the City's strict design criteria. The various building materials, found in other structures along the corridor, link the style throughout the City in one cohesive structure.

To optimize the maneuverability of the fire trucks, the station sits at the limits of the setbacks. The building's presence along the setback is softened at the pedestrian level by incorporating a "time line plaza", a water feature, and native landscaping.

A timeline of the department's history was created by engraving the bricks of the plaza with the names of all past employees and volunteers. Benches representing each decade of that history act as barricades between the administrative offices of the first floor and the street.

Inside the hose tower entry, the station features a memorabilia area and a multi-purpose room which is used for training and community groups. The remainder of the first floor consists of: a report writing room that doubles as a backup 9-1-1 emergency dispatch center, administrative offices, a 14-person dayroom, a kitchen with a commercial range and hood, a dining room, and weight room facilities. Provided is an outdoor patio equipped with a gas grill, range hood, and screen wall with built-in benches for added privacy. Five 100-foot-deep bays house the fire apparatus: a hazmat truck and trailers, EMS vehicles, and water rescue units. The bays are flanked on each side by support spaces such as a decontamination room, hazmat and EMS storage, and a bunker room. The second floor is reserved for the private spaces of the fire personnel, which include sleeping rooms, bathrooms, a laundry room, and a study room that overlooks the apparatus bay. To complete the fire station, there is a fire pole beside each staircase.

Many details make this a superior fire facility, from an automatic shut-off on the stove and grill when a call is received to the coded LED lights that tie into the alerting system and identify each individual crew's specific calls. Even the acoustics of the bay were considered to ensure that all staff can easily hear the tones when a call comes in.

## FIRE STATION

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>0.96</b>   | <b>4.43</b>     | <b>111,263</b>    |
|                              | Fire Protection                       | 0.72          | 3.32            | 83,446            |
|                              | Fire Stub From 5' Outside Bldg        | 0.06          | 0.29            | 7,489             |
|                              | Dept Fill Valves                      | 0.18          | 0.81            | 20,326            |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>3.79</b>   | <b>17.43</b>    | <b>438,232</b>    |
|                              | Plumbing Rough-in Underground         | 1.11          | 5.12            | 128,655           |
|                              | Grease Trap                           | 0.10          | 0.47            | 11,768            |
|                              | Oil Trap                              | 0.20          | 0.93            | 23,601            |
|                              | Plumbing                              | 2.26          | 10.41           | 261,578           |
|                              | Misc Plumbing                         | 0.11          | 0.51            | 12,631            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>6.07</b>   | <b>27.90</b>    | <b>700,952</b>    |
|                              | Controls                              | 1.09          | 5.02            | 126,240           |
|                              | Diffusers, Grilles                    | 0.19          | 0.88            | 22,124            |
|                              | Ductwork                              | 1.55          | 7.12            | 178,876           |
|                              | Exhaust Fans                          | 0.32          | 1.45            | 36,675            |
|                              | Hoods                                 | 0.20          | 0.91            | 23,151            |
|                              | Insulation                            | 0.32          | 1.45            | 36,803            |
|                              | Miscellaneous                         | 0.61          | 2.82            | 71,036            |
|                              | Piping                                | 0.83          | 3.81            | 96,069            |
| <b>26</b>                    | <b>Electrical</b>                     | <b>11.95</b>  | <b>54.95</b>    | <b>1,381,021</b>  |
|                              | Building Lighting                     | 0.33          | 1.52            | 38,225            |
|                              | Emergency Generator                   | 1.89          | 8.69            | 218,245           |
|                              | EMT, Boxes, Fitting                   | 0.54          | 2.47            | 62,223            |
|                              | Fixtures & Lamps                      | 3.14          | 14.43           | 362,285           |
|                              | Lighting Protection                   | 0.37          | 1.69            | 42,591            |
|                              | Miscellaneous                         | 0.59          | 2.73            | 68,247            |
|                              | Mobilize                              | 0.29          | 1.32            | 33,165            |
|                              | PVC Conduit                           | 0.44          | 2.01            | 50,346            |
|                              | Racking/Misc                          | 0.42          | 1.93            | 48,745            |
|                              | Rigid Conduit/MC                      | 0.24          | 1.08            | 27,364            |
|                              | Site Power Distribution               | 0.24          | 1.11            | 28,228            |
|                              | Sound                                 | 0.24          | 1.08            | 27,258            |
|                              | Supervision                           | 0.24          | 1.11            | 27,962            |
|                              | Switchgear                            | 0.76          | 3.49            | 87,652            |
|                              | Temp Power/Start-up Utilities         | 0.34          | 1.56            | 38,984            |
|                              | UPS                                   | 0.28          | 1.27            | 32,224            |
|                              | Wire                                  | 1.62          | 7.44            | 187,279           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.71</b>   | <b>3.26</b>     | <b>82,173</b>     |
|                              | Tele/Data                             | 0.71          | 3.26            | 82,173            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.49</b>   | <b>2.25</b>     | <b>56,453</b>     |
|                              | Fire Alarm                            | 0.49          | 2.25            | 56,453            |
| <b>Total M &amp; E Costs</b> |                                       | <b>23.97</b>  | <b>110.21</b>   | <b>2,770,095</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>459.70</b>   | <b>11,553,779</b> |

## HISTORICAL MEETING CENTER

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### FILE 26



The red brick "Galveston Water and Electric Light Station" was built in 1904 atop the buff limestone foundations of the earlier 1889 pump station that was destroyed in the 1900 hurricane.

The City of Galveston rehabilitated the Pump Station as a 6,800-square-foot community center for the rapidly expanding surrounding neighborhoods. Elements of the original pump station equipment, signage, and hardware are on display to inform visitors about the building's history. One of the original 1889 water tanks, east of the building, also remains.

The mortar joints on the exterior of the building were completely tuck pointed, and broken bricks were replaced with original bricks harvested from the rear wall of the building. Building cornices and pediments were originally made of sheet metal and, through the years, deteriorated due to exposure to the salt air from the Gulf of Mexico. They were replaced with fiberglass replicas cast from another Bulger building to keep the original style intact. The broken limestone on walls and entry stairs were replaced with Texas white limestone to match the originals.

This building originally contained two rooms: one for the electric generator, and the other for the water pumps. The main meeting room is surrounded by thirteen-foot-tall original double-hung wood windows and large cypress doors, which were removed, cleaned to bare wood, and repainted in the original 1904 color scheme. The floor contained pits which housed the water pumps that supplied Galveston with drinking water until the 2000s. The pits were filled and a new slab poured over the old openings. The interior color scheme is from renovations done to the building in the 1930s.

One of the highlights of the restoration is the installation of a glass panel floor over the old water pump wells, which will allow visitors to walk over and view the building's historic water pumps.

The rear room was converted into a catering corridor, public restrooms, and a smaller meeting room. A mezzanine was created over the restrooms for the new mechanical room.

## HISTORICAL MEETING CENTER

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>10</b>                    | <b>Specialties</b>                    | <b>0.47</b>   | <b>3.02</b>     | <b>20,548</b>    |
|                              | Toilet Accessories                    | 0.14          | 0.91            | 6,157            |
|                              | Toilet Partitions                     | 0.33          | 2.11            | 14,391           |
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.72</b>   | <b>11.07</b>    | <b>75,418</b>    |
|                              | Fire Sprinkler                        | 1.09          | 7.00            | 47,713           |
|                              | Fire Sprinkler Underground            | 0.63          | 4.07            | 27,704           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>11.20</b>  | <b>72.01</b>    | <b>490,523</b>   |
|                              | Underground                           | 3.34          | 21.50           | 146,525          |
|                              | Rough In                              | 5.09          | 32.77           | 223,174          |
|                              | Fixtures                              | 1.93          | 12.43           | 84,653           |
|                              | Cap Existing Water Lines at Pit       | 0.83          | 5.31            | 36,170           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>11.59</b>  | <b>74.56</b>    | <b>507,916</b>   |
|                              | HVAC Equipment                        | 8.01          | 51.52           | 350,924          |
|                              | Ductwork                              | 1.58          | 10.16           | 69,261           |
|                              | Grilles                               | 0.63          | 4.07            | 27,704           |
|                              | Controls                              | 0.56          | 3.61            | 24,626           |
|                              | Add HVAC VE Option Back               | 0.81          | 5.20            | 35,400           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>12.15</b>  | <b>78.11</b>    | <b>532,097</b>   |
|                              | Rough In                              | 6.18          | 39.73           | 270,639          |
|                              | Switchgear                            | 2.99          | 19.20           | 130,826          |
|                              | Fixtures                              | 2.00          | 12.88           | 87,731           |
|                              | Low Voltage Conduit                   | 0.28          | 1.80            | 12,314           |
|                              | Electrical Duct Bank                  | 0.36          | 2.29            | 15,640           |
|                              | Add Battery Backup                    | 0.34          | 2.19            | 14,947           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.17</b>   | <b>1.06</b>     | <b>7,258</b>     |
|                              | Extend Comm Conduits                  | 0.17          | 1.06            | 7,258            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.34</b>   | <b>2.16</b>     | <b>14,703</b>    |
|                              | Fire Alarm                            | 0.28          | 1.80            | 12,314           |
|                              | Add Conduits for Camera               | 0.05          | 0.35            | 2,390            |
| <b>Total M &amp; E Costs</b> |                                       | <b>37.64</b>  | <b>242.00</b>   | <b>1,648,462</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>643.07</b>   | <b>4,380,582</b> |

## STUDENT UNION

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### FILE 27



This design-build project included the removal of portions of the existing Student Union Facility and construction of 47,500 square feet of new space, as well as the conversion of the existing 24,000-square-foot bookstore into an event space.

The vision for the new University Student Center was to provide a fulfilling experience and the resources necessary to allow for student success. The environment was designed to ignite campus pride and improve student life. And students, no matter their demographic, will find their niche within the space.

The building is now a place where the student body can be engaged, empowered, and transformed. The Student Union is the heart of the university, and characterized by modern design and sustainable practices. The building met the goal of becoming a place where students can be collaborative, creative, and comfortable. It is the foundation of the new Stanislaus State.

The program for the project included lecture halls, theater space, offices, and food service vendor spaces.

The Technology Services included are: Campus Site Utility Coordination; Outside Plant Design Distribution (WAN); Information Technology Infrastructure (LAN); Wi-Fi Systems Design (WLAN); Security Design; and Audio-Visual Design.

Sustainable Building Features include: Dynamic daylight via glazing type, orientation, and shading; Improved envelope with limited thermal short circuits; Color-corrected LED lighting to maintain human circadian rhythms; Continuous indoor air quality monitoring for health awareness; Photovoltaic systems integrated with the building and/or landscape as an aesthetic feature; and Storm water collection and/or reuse to introduce/experiment with new concepts.

## STUDENT UNION

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.06</b>   | <b>7.86</b>     | <b>577,466</b>    |
|                              | Fire Protection                       | 1.06          | 7.86            | 577,466           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>2.19</b>   | <b>16.19</b>    | <b>1,190,080</b>  |
|                              | General Conditions                    | 0.15          | 1.10            | 80,847            |
|                              | Domestic Water                        | 0.37          | 2.72            | 199,650           |
|                              | DWV                                   | 0.62          | 4.60            | 338,258           |
|                              | Fixtures                              | 0.40          | 2.94            | 216,160           |
|                              | Grease Interceptor                    | 0.40          | 2.93            | 215,603           |
|                              | Natural Gas                           | 0.13          | 0.97            | 70,963            |
|                              | Storm                                 | 0.13          | 0.93            | 68,598            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>10.70</b>  | <b>79.00</b>    | <b>5,806,535</b>  |
|                              | AHUs                                  | 1.22          | 8.99            | 660,933           |
|                              | Chlorination                          | 0.05          | 0.34            | 25,046            |
|                              | Controls                              | 0.96          | 7.10            | 521,789           |
|                              | Dampers Fans VAVs Silencers           | 0.24          | 1.80            | 132,187           |
|                              | Ductwork                              | 2.04          | 15.06           | 1,106,819         |
|                              | Fire Caulking                         | 0.14          | 1.06            | 77,920            |
|                              | General Conditions                    | 1.82          | 13.40           | 984,591           |
|                              | Grills                                | 0.02          | 0.16            | 11,748            |
|                              | Grills                                | 0.15          | 1.14            | 83,486            |
|                              | Hydronic                              | 3.60          | 26.54           | 1,950,862         |
|                              | Insulation                            | 0.46          | 3.42            | 251,154           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>10.90</b>  | <b>80.42</b>    | <b>5,910,781</b>  |
|                              | General Conditions                    | 3.07          | 22.64           | 1,664,284         |
|                              | Fixtures                              | 1.75          | 12.90           | 948,095           |
|                              | Outlets CAT 6 Cable & Misc            | 0.13          | 0.96            | 70,268            |
|                              | Rough In                              | 4.54          | 33.51           | 2,462,844         |
|                              | Switchgear                            | 1.41          | 10.41           | 765,291           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.71</b>   | <b>5.24</b>     | <b>385,071</b>    |
|                              | 3D Datacom                            | 0.02          | 0.12            | 8,748             |
|                              | Change Orders                         | 0.04          | 0.29            | 21,506            |
|                              | Telecommunications                    | 0.65          | 4.83            | 354,817           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.96</b>   | <b>7.09</b>     | <b>520,752</b>    |
|                              | Fire Alarm                            | 0.29          | 2.15            | 158,134           |
|                              | Helix                                 | 0.65          | 4.77            | 350,587           |
|                              | Change Orders                         | 0.02          | 0.16            | 12,032            |
| <b>Total M &amp; E Costs</b> |                                       | <b>26.52</b>  | <b>195.80</b>   | <b>14,390,685</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>737.98</b>   | <b>54,241,363</b> |

## ELEMENTARY SCHOOL

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### FILE 28



John Dewey, at the turn of the 20th century, put forth a vision for modern education and reimagined a future in which schools "carefully balance the delivery of knowledge and learning through active inquiry". John S. McCain III Elementary, the only school to be named after the late senator, embraces and epitomizes these ideals.

The school is designed to support the C-STEM curriculum and also fosters social and emotional learning. A community-led, collaborative, co-creation process was utilized to establish a design direction, embed the school into its larger context, and set up the school district for future success.

JSM III is a learning community-based organization. There are three learning communities initially operated along traditional age-based grade bands. They can easily adapt to an ability-based cohort organized around pedagogies involving teacher facilitated-student directed learning. The learner-centric communities feature multi-dimensional infrastructures that support brainbased learning modalities, and offer a high degree of flexibility, variety, and collaborative opportunities at multiple scales.

High performance and biophilic design principles such as ample natural light, views, access to the outdoors, and balance of prospect and refuge, help cater to occupant wellness while creating a solid foundation for higher order learning.

The life, legacy, and ethics of Senator McCain are embedded through a branding strategy employing computational design, as traits for students to unpack through the course of their development and growth at the school.

## ELEMENTARY SCHOOL

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>0.68</b>   | <b>3.02</b>     | <b>287,209</b>    |
|                              | Fire Protection                       | 0.68          | 3.02            | 287,209           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>3.20</b>   | <b>14.15</b>    | <b>1,343,838</b>  |
|                              | Plumbing                              | 3.20          | 14.15           | 1,343,838         |
| <b>23</b>                    | <b>HVAC</b>                           | <b>6.90</b>   | <b>30.48</b>    | <b>2,895,696</b>  |
|                              | HVAC                                  | 6.90          | 30.48           | 2,895,696         |
| <b>26</b>                    | <b>Electrical</b>                     | <b>9.19</b>   | <b>40.60</b>    | <b>3,857,306</b>  |
|                              | Electrical                            | 9.19          | 40.60           | 3,857,306         |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.39</b>   | <b>6.13</b>     | <b>582,491</b>    |
|                              | Fire Alarm                            | 1.00          | 4.41            | 419,324           |
|                              | Access Control                        | 0.39          | 1.72            | 163,166           |
| <b>Total M &amp; E Costs</b> |                                       | <b>21.36</b>  | <b>115.74</b>   | <b>8,966,677</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>441.84</b>   | <b>41,974,585</b> |

### FILE 29



Creative Hands Art Studio needed an inspiring space that could accommodate their growth, while not breaking the budget. Gabbert Architects Planners used creativity, ingenuity, and imagination to meet the client's lofty dreams on a development-pressured site. The result is an awe inspiring space where kids can explore their creativity in an eye-catching, airy building.

Dr. Rinkle Shah saw that kids found connection to themselves, each other, their community, and their heritage through art, ceramics, and pottery. She started her studio in a small retail tenant space and after three long years in planning, design, and construction, her dream became a reality in her new, double-height, open-plan studio. "The building reaches out to the community in the same way that her business has, and we used her story to inspire the design," the architect noted.

"The zoning required that a minimum of 50% of the site area be developed," the design planner stated. "They want the whole area to be much more urban."

The design team went on to observe that, while Dr. Shah plans to further develop the site, the project couldn't wait 5 years for master planning and development. "We needed to find a solution that would allow her to move her growing studio quickly," the architect said. What happened? They proposed an addition to a 1950s wood-framed building.

The design is a heavy timber super-structure around the existing building with open-web roof trusses set off with glass and dramatic angles. It's an inspirational modern building that sets a theme for what is to come to the corridor peppered with small shops, food trucks, and 50-year-old strip malls.

Dr. Shah wanted a space that connected to the site, captured views of nature, and let in plenty of natural light. In addition, the space needed to be open and feel lively so that the kids could connect through different types of arts and crafts. "We were also tasked with creating flexible classrooms that could be intimate for smaller groups or really opened up for large classes outside of the main space," the designer added. "The structural concept allowed us to showcase the gluelaminated beams and columns in a way that nods to the contemporary-industrial aesthetic. It's the steel-concrete-and-glass feel, but we substituted wood to bring warmth and inspiration to the creative spaces," the architect told us.

## CREATIVE ARTS STUDIO

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>22</b>                    | <b>Plumbing</b>                       | <b>3.51</b>   | <b>8.58</b>     | <b>51,632</b>    |
|                              | Art Room & Pottery Room Sinks         | 0.17          | 0.41            | 2,453            |
|                              | Ground Plumbing                       | 1.67          | 4.08            | 24,528           |
|                              | Rough In                              | 1.25          | 3.06            | 18,396           |
|                              | Future Bathroom                       | 0.43          | 1.04            | 6,255            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>13.40</b>  | <b>32.74</b>    | <b>196,973</b>   |
|                              | HVAC Ground                           | 3.00          | 7.34            | 44,151           |
|                              | Rough In                              | 3.00          | 7.34            | 44,151           |
|                              | Finish                                | 4.67          | 11.42           | 68,679           |
|                              | Change Order                          | 2.72          | 6.65            | 39,992           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>12.85</b>  | <b>31.40</b>    | <b>188,907</b>   |
|                              | Underground Work                      | 2.91          | 7.11            | 42,790           |
|                              | Rough In                              | 3.34          | 8.17            | 49,152           |
|                              | Trim                                  | 3.34          | 8.17            | 49,145           |
|                              | Change Order                          | 1.88          | 4.59            | 27,585           |
|                              | Extra Rough in for Upstairs           | 1.38          | 3.36            | 20,236           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.28</b>   | <b>0.68</b>     | <b>4,110</b>     |
|                              | Communications                        | 0.28          | 0.68            | 4,110            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.53</b>   | <b>3.74</b>     | <b>22,528</b>    |
|                              | Fire Alarm                            | 1.53          | 3.74            | 22,528           |
| <b>Total M &amp; E Costs</b> |                                       | <b>31.57</b>  | <b>77.14</b>    | <b>464,150</b>   |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>244.32</b>   | <b>1,469,845</b> |

## STUDENT HOUSING

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### FILE 30



The construction of the new student housing and dining commons on the east end of the Cal State San Bernardino campus was the largest single capital project in university history.

With 416 beds, the student housing development is the initial phase of a larger community that will be developed at CSUSB as enrollment grows. This residential community will eventually serve about 1,200 more students.

This phase was targeted to meet the needs of entering first-year students and is the first new housing community specifically designed to serve their needs since Serrano Village opened in 1972.

In addition to the new housing units for students, the community dedicated space for student advising and academic support, the Honors Program, two Faculty-in-Residence apartments, a community kitchen, multipurpose meeting rooms, and is the administrative home of the university's Department of Housing and Residential Education.

The new dining commons is a two level, multi-faceted campus dining facility with a capacity of nearly 700 customers. Two dining experiences are available in this location.

The first offers an all-you-care-to-eat dining hall featuring a range of dining cuisines, including a grill, sandwiches/salads, display cooking, and a number of international choices. Seating is on multiple levels, including two enclosed outdoor locations, meeting rooms that can be reserved for groups and guests, and a faculty/staff collaboration dining room.

The second venue in the new dining commons is a cash-and-carry operation, as well as an enhanced convenience store. CSUSB's first planned late-night dining location, it offers sandwiches and grill-style cash options all day, providing an exciting place for the campus community to gather into the evening.

As with all campus housing, the project was funded through the rental rates of students living in the residence halls. No state general fund dollars were committed to this project.

## STUDENT HOUSING

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| <b>Code</b>                  | <b>Division Name</b>    | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b> | <b>1.41</b>   | <b>7.97</b>     | <b>855,144</b>    |
|                              | Sprinklers              | 0.90          | 5.07            | 543,737           |
|                              | Standpipe               | 0.51          | 2.90            | 311,408           |
| <b>22</b>                    | <b>Plumbing</b>         | <b>3.75</b>   | <b>21.21</b>    | <b>2,275,181</b>  |
|                              | Equipment & Fixtures    | 0.59          | 3.37            | 361,140           |
|                              | General Conditions      | 0.17          | 0.95            | 102,347           |
|                              | Rough In                | 2.98          | 16.89           | 1,811,694         |
| <b>23</b>                    | <b>HVAC</b>             | <b>9.97</b>   | <b>56.45</b>    | <b>6,054,496</b>  |
|                              | Chemical Treatment      | 0.01          | 0.07            | 7,548             |
|                              | Controls                | 0.55          | 3.10            | 332,117           |
|                              | Ductwork                | 1.24          | 7.04            | 755,017           |
|                              | Excavation              | 0.11          | 0.64            | 68,619            |
|                              | General Conditions      | 1.82          | 10.29           | 1,103,993         |
|                              | HVAC Equipment          | 3.97          | 22.50           | 2,413,473         |
|                              | Insulation & Firestop   | 1.09          | 6.16            | 660,391           |
|                              | Piping                  | 1.17          | 6.65            | 713,337           |
| <b>26</b>                    | <b>Electrical</b>       | <b>10.52</b>  | <b>59.54</b>    | <b>6,386,418</b>  |
|                              | Fixtures                | 2.60          | 14.74           | 1,581,337         |
|                              | General Conditions      | 0.93          | 5.28            | 566,033           |
|                              | Low Voltage             | 3.23          | 18.28           | 1,960,286         |
|                              | Rough In                | 3.75          | 21.25           | 2,278,762         |
| <b>Total M &amp; E Costs</b> |                         | <b>25.65</b>  | <b>145.17</b>   | <b>15,571,239</b> |
| <b>Total Building Costs</b>  |                         | <b>100.00</b> | <b>566.20</b>   | <b>60,730,394</b> |

## DINING COMMONS

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### FILE 31



The construction of the new student housing and dining commons on the east end of the Cal State San Bernardino campus was the largest single capital project in university history.

With 416 beds, the student housing development is the initial phase of a larger community that will be developed at CSUSB as enrollment grows. This residential community will eventually serve about 1,200 more students.

This phase was targeted to meet the needs of entering first-year students and is the first new housing community specifically designed to serve their needs since Serrano Village opened in 1972.

In addition to the new housing units for students, the community dedicated space for student advising and academic support, the Honors Program, two Faculty-in-Residence apartments, a community kitchen, multipurpose meeting rooms, and is the administrative home of the university's Department of Housing and Residential Education.

The new dining commons is a two level, multi-faceted campus dining facility with a capacity of nearly 700 customers. Two dining experiences are available in this location.

The first offers an all-you-care-to-eat dining hall featuring a range of dining cuisines, including a grill, sandwiches/salads, display cooking, and a number of international choices. Seating is on multiple levels, including two enclosed outdoor locations, meeting rooms that can be reserved for groups and guests, and a faculty/staff collaboration dining room.

The second venue in the new dining commons is a cash-and-carry operation, as well as an enhanced convenience store. CSUSB's first planned late-night dining location, it offers sandwiches and grill-style cash options all day, providing an exciting place for the campus community to gather into the evening.

As with all campus housing, the project was funded through the rental rates of students living in the residence halls. No state general fund dollars were committed to this project.

## DINING COMMONS

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| <b>Code</b>                  | <b>Division Name</b>    | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b> | <b>0.76</b>   | <b>6.62</b>     | <b>320,321</b>    |
|                              | Rough in                | 0.72          | 6.27            | 303,249           |
|                              | Finish                  | 0.03          | 0.24            | 11,641            |
|                              | Closeout                | 0.01          | 0.11            | 5,431             |
| <b>22</b>                    | <b>Plumbing</b>         | <b>4.81</b>   | <b>42.07</b>    | <b>2,034,424</b>  |
|                              | Equipment & Fixtures    | 0.62          | 5.46            | 263,993           |
|                              | Gas                     | 0.70          | 6.14            | 297,109           |
|                              | General Conditions      | 0.26          | 2.31            | 111,615           |
|                              | Grease Waste            | 0.58          | 5.05            | 244,104           |
|                              | Storm Drain             | 0.50          | 4.40            | 212,555           |
|                              | Waste & Vent            | 1.41          | 12.30           | 594,802           |
|                              | Piping                  | 0.73          | 6.42            | 310,247           |
| <b>23</b>                    | <b>HVAC</b>             | <b>9.43</b>   | <b>82.42</b>    | <b>3,985,865</b>  |
|                              | Chemical Treatment      | 0.02          | 0.16            | 7,611             |
|                              | Controls                | 1.43          | 12.53           | 606,113           |
|                              | General Conditions      | 0.39          | 3.43            | 166,058           |
|                              | Ductwork                | 1.76          | 15.37           | 743,388           |
|                              | Excavation              | 0.16          | 1.43            | 69,191            |
|                              | General Conditions      | 1.54          | 13.43           | 649,614           |
|                              | HVAC                    | 2.31          | 20.20           | 976,977           |
|                              | Insulation & Firestop   | 1.01          | 8.85            | 427,877           |
|                              | Piping                  | 0.80          | 7.01            | 339,036           |
| <b>26</b>                    | <b>Electrical</b>       | <b>12.60</b>  | <b>110.08</b>   | <b>5,323,434</b>  |
|                              | Feeders                 | 0.89          | 7.75            | 374,579           |
|                              | General Conditions      | 1.92          | 16.75           | 810,171           |
|                              | Lighting                | 4.91          | 42.87           | 2,073,062         |
|                              | Low Voltage             | 1.22          | 10.64           | 514,644           |
|                              | Panel Boards            | 1.15          | 10.04           | 485,631           |
|                              | Rough in                | 2.52          | 22.03           | 1,065,346         |
| <b>Total M &amp; E Costs</b> |                         | <b>27.60</b>  | <b>241.19</b>   | <b>11,664,044</b> |
| <b>Total Building Costs</b>  |                         | <b>100.00</b> | <b>873.81</b>   | <b>42,255,522</b> |

## HIGH SCHOOL ADDITION

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### FILE 32



The architects at Long & Associates had the incredible opportunity to design a remarkable 500-student station building addition for Spoto High School. Situated on their expansive 53-acre school site, Long & Associates' goal was to seamlessly integrate this addition into the existing campus fabric while enhancing its functionality and aesthetics.

Long's design encompassed several key aspects. First, they upgraded the Chiller Plant to accommodate the additional loads, ensuring optimal performance and comfort. Additionally, they strategically rerouted major site utilities around the new building footprint, carefully considering efficiency and accessibility.

To maintain a cohesive architectural harmony, Long paid meticulous attention to detail in the tilt wall panel design. Each fenestration was thoughtfully placed to match the existing school's aesthetic, creating a harmonious blend that adds to the overall campus fabric.

Inside the new addition, Long created a diverse range of educational facilities. These included 20 classrooms catering to specific disciplines such as Culinary Arts, Chemistry Labs, Biology Labs, Multipurpose Classrooms, Teacher Planning, Vertical Circulation, and dedicated support spaces. Their priority was to provide a safe environment for students, so each classroom features operable emergency escape windows and a discreet Shadow Zone design. In the unlikely event of an active security event, students can find a secure, concealed area within the classroom that remains out of sight from the door lite. This unique feature is visually indicated by a distinct flooring pattern, ensuring both students and faculty can easily identify and utilize the safe haven.

Furthermore, Long integrated the latest technology and teaching systems into each classroom, aligning them with the campus curriculum. Touch screen televisions, digital tools, alerting systems, and cameras were integrated to support modern teaching methods and enhance the learning experience.

Long & Associates takes great pride in their architectural design and commitment to excellence. The Spoto High School project allowed them to showcase their expertise in creating functional spaces that blend with the existing campus while prioritizing safety and incorporating advanced technology. Long feels it was a privilege to contribute to the transformation of Spoto High School into an inspiring and innovative educational environment.

## HIGH SCHOOL ADDITION

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| <b>Code</b>                  | <b>Division Name</b>    | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b> | <b>0.80</b>   | <b>3.05</b>     | <b>94,726</b>     |
|                              | Fire Protection         | 0.80          | 3.05            | 94,726            |
| <b>22</b>                    | <b>Plumbing</b>         | <b>4.81</b>   | <b>18.41</b>    | <b>570,977</b>    |
|                              | Plumbing                | 4.81          | 18.41           | 570,977           |
| <b>23</b>                    | <b>HVAC</b>             | <b>17.00</b>  | <b>65.05</b>    | <b>2,017,391</b>  |
|                              | HVAC                    | 27.58         | 105.51          | 3,272,102         |
|                              | Test & Balance          | 0.30          | 1.15            | 35,542            |
|                              | Change Orders           | (10.88)       | (41.60)         | (1,290,253)       |
| <b>26</b>                    | <b>Electrical</b>       | <b>17.57</b>  | <b>67.20</b>    | <b>2,084,115</b>  |
|                              | Electrical              | 17.57         | 67.20           | 2,084,115         |
| <b>Total M &amp; E Costs</b> |                         | <b>40.18</b>  | <b>153.71</b>   | <b>4,767,209</b>  |
| <b>Total Building Costs</b>  |                         | <b>100.00</b> | <b>382.56</b>   | <b>11,864,280</b> |

## COLLEGE LEARNING CENTER

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### FILE 33



Campus officials, community members, and the construction and design team celebrated the groundbreaking of California State University, San Bernardino's new Center for Global Innovation (CGI) building of the College of Extended Learning (CEL).

Sundt is the Construction Manager at Risk for the \$55 million project. The firm constructed a 71,000-square-foot, three story classroom and administrative office building. The new building provides a centralized location for international students, allows opportunities for them to integrate more with the general student population, and enriches student and academic life.

The event, held inside due to strong winds, was attended by campus administrators, including President Tomas D. Morales; Vice President for Administration and Finance, Douglas Freer; and San Bernardino Mayor R. Carey Davis. College of Extended Learning Dean Tatiana Karmanova talked about the tremendous positive impact the new facility will have on the college and the CSUSB campus.

CGI includes 24 classrooms, a 250-seat auditorium, reconfigurable multipurpose rooms, study lounges, retail food services, and spaces for hosting indoor and outdoor special programs. Sustainable building features include extensive use of natural lighting and ventilation, energy efficient LED lighting with smart controls, water efficient plumbing, and energy efficient windows.

"We are excited to build this new hub of student life at Cal State San Bernardino," said Sundt Project Executive Betty Lynn Senes. "Sundt Construction is all about continual learning, and the College of Extended Learning serves the local population — from high school to professionals seeking to advance to retirees — providing a rich educational experience for the diverse population of CSUSB students."

## COLLEGE LEARNING CENTER

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| <b>Code</b>                  | <b>Division Name</b>           | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|--------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>        | <b>0.97</b>   | <b>7.53</b>     | <b>549,161</b>    |
|                              | General Conditions             | 0.12          | 0.91            | 66,481            |
|                              | Sprinkler System               | 0.75          | 5.84            | 425,949           |
|                              | Standpipe                      | 0.10          | 0.78            | 56,730            |
| <b>22</b>                    | <b>Plumbing</b>                | <b>1.72</b>   | <b>13.28</b>    | <b>968,456</b>    |
|                              | Domestic Water Gas Condensate  | 0.46          | 3.52            | 256,874           |
|                              | Fixtures                       | 0.23          | 1.75            | 127,394           |
|                              | General Conditions             | 0.13          | 1.04            | 76,176            |
|                              | Irrigation                     | 0.02          | 0.19            | 14,072            |
|                              | Rough                          | 0.80          | 6.15            | 448,760           |
|                              | Seismic Bracing                | 0.08          | 0.62            | 45,179            |
| <b>23</b>                    | <b>HVAC</b>                    | <b>5.36</b>   | <b>41.49</b>    | <b>3,025,716</b>  |
|                              | Air Supply                     | 0.73          | 5.63            | 410,797           |
|                              | Chilled Water                  | 0.27          | 2.11            | 153,765           |
|                              | Controls                       | 0.77          | 5.97            | 435,201           |
|                              | Dampers/Louvers                | 0.13          | 0.98            | 71,245            |
|                              | Ductwork                       | 1.80          | 13.91           | 1,014,504         |
|                              | Fans                           | 0.13          | 1.02            | 74,653            |
|                              | General Conditions             | 0.57          | 4.40            | 321,265           |
|                              | Hot Water                      | 0.52          | 4.02            | 293,320           |
|                              | Insulation                     | 0.27          | 2.05            | 149,582           |
|                              | Pumps                          | 0.06          | 0.49            | 35,595            |
|                              | Refrigerant Piping             | 0.12          | 0.90            | 65,788            |
| <b>26</b>                    | <b>Electrical</b>              | <b>10.58</b>  | <b>81.91</b>    | <b>5,973,823</b>  |
|                              | Access Control                 | 0.36          | 2.77            | 202,375           |
|                              | Data Cabling                   | 1.02          | 7.87            | 573,735           |
|                              | Feeders                        | 0.23          | 1.74            | 127,249           |
|                              | Fire Alarm                     | 0.71          | 5.49            | 400,077           |
|                              | Fixtures & Trim                | 3.14          | 24.29           | 1,771,159         |
|                              | General Conditions             | 1.74          | 13.44           | 980,384           |
|                              | Generator                      | 0.42          | 3.28            | 239,401           |
|                              | Rough                          | 2.31          | 17.89           | 1,304,450         |
|                              | Switchboards Panels            | 0.05          | 0.42            | 30,470            |
|                              | Switchgear Panels Transformers | 0.61          | 4.72            | 344,524           |
| <b>Total M &amp; E Costs</b> |                                | <b>18.63</b>  | <b>144.21</b>   | <b>10,517,156</b> |
| <b>Total Building Costs</b>  |                                | <b>100.00</b> | <b>773.87</b>   | <b>56,439,777</b> |

## HIGH SCHOOL ACADEMY

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### FILE 34



Vega Collegiate Academy is a charter school facility in Aurora, Colorado, that provides excellent educational opportunities for a diverse range of economically disadvantaged students.

Vega outgrew their leased church space but still wanted to provide a quality educational option in the local underserved community. After looking at multiple locations they landed on the old manufacturing facility for Eagle Claw Fish Hooks.

Unified Building Group worked with the architect, the city of Aurora and the state of Colorado to redevelop the existing building and revitalize the corner of 14th and Yosemite.

The main focus was to create a stimulating space conducive to engaging the children's imagination and excitement for learning with the goal of securing a successful future for every child in the community.

The extensive scope started with demolishing an existing storage building in the future parking lot, and took the entire building structure back to its shell.

Scheduling was a huge challenge given the scope of the project and the time constraints for the building to be open to welcome students at the beginning of the school year.

Asbestos abatement had to be completed before the new mechanical, electrical and plumbing systems went in. A new fire suppression & alarm system was designed and installed. An elevator was retrofitted into an existing shaft.

Unified Building Group really enjoyed working on this project having been active in the construction of education facilities for over 25 years in Florida and Colorado. When building all types of facilities, particularly schools, they are especially aware of the need for safely delivering a fast turnaround without compromise in quality, efficiency or cost.

## HIGH SCHOOL ACADEMY

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| <b>Code</b>                 | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|-----------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>21</b>                   | <b>Fire Suppression</b>               | <b>5.35</b>   | <b>6.13</b>     | <b>397,487</b>   |
|                             | Water-Based Fire-Suppression Systems  | 5.35          | 6.13            | 397,487          |
| <b>22</b>                   | <b>Plumbing</b>                       | <b>8.41</b>   | <b>9.63</b>     | <b>624,160</b>   |
|                             | Piping & Pumps                        | 8.41          | 9.63            | 624,160          |
| <b>23</b>                   | <b>HVAC</b>                           | <b>9.79</b>   | <b>11.22</b>    | <b>727,141</b>   |
|                             | Central HVAC Equipment                | 9.79          | 11.22           | 727,141          |
| <b>26</b>                   | <b>Electrical</b>                     | <b>12.90</b>  | <b>14.78</b>    | <b>957,679</b>   |
|                             | Power Generating & Storing Equipment  | 12.90         | 14.78           | 957,679          |
| <b>28</b>                   | <b>Electronic Safety and Security</b> | <b>1.60</b>   | <b>1.83</b>     | <b>118,735</b>   |
|                             | Detection & Alarm                     | 1.21          | 1.38            | 89,709           |
|                             | Monitoring & Control                  | 0.39          | 0.45            | 29,026           |
| <b>Total Building Costs</b> |                                       | <b>38.05</b>  | <b>43.59</b>    | <b>2,825,202</b> |
| <b>Total Building Costs</b> |                                       | <b>100.00</b> | <b>114.60</b>   | <b>7,425,956</b> |

## COLLEGE CAMPUS CENTER

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### FILE 35



Architect Alison Beck, Freese and Nichols, describes the new campus center at Central Texas College as the campus living room. The college, based in Texas, serves a commuter population drawn from the adjacent Fort Hood Army Base and surrounding communities of family members, Base employees, and nearby residents. The campus center provides a place where students can study for a test in solitude or in groups, meet with friends, or get a cup of coffee. The 48,000-square-foot building is also where the School of Nursing (the college's largest class) can conduct graduation ceremonies in the second floor conference center, which accommodates 500 people. The Board of Trustees can host meetings and presentations for 100 people in the boardroom, where full-service catering facilities can provide banquet services, and where students can browse for books and more in a campus bookstore four times the size of the store it replaced.

Located just south of the original 40-year-old student center, the new center features terra cotta roofs, an upstairs patio, and shaded arcades. The structure shares both the architectural vocabulary and a fresh perspective on the existing, Mediterranean-style campus buildings. A 4,000-square-foot pedestrian plaza, that creates a dramatic multi-use space between the two buildings, links the old student center scheduled for renovation. Tree-lined stairs on both sides of the campus center connect the plaza to new parking at the south entrance. The site utilizes native and adapted species of shade trees, multi-trunk flowering trees, shrubs, and groundcover on more than half the open space, providing open lawns and shaded areas with benches. Banded panels of brick pavers and decorative pedestrian-scale lighting with pole-mounted banners define the hard surfaces and edges of the plaza space while disguising an emergency-vehicle access lane as a pedestrian mall.

Inside the new student center is a grand staircase winding around the clock tower that graces the two-story dining hall. On the second floor, the conference center can house large events, or be subdivided into four smaller spaces for more flexibility. "Pre-function" areas at large events offer nooks for everyday use as study spaces.

## COLLEGE CAMPUS CENTER

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| <b>Code</b>                  | <b>Division Name</b>                   | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|--|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>                | <b>0.55</b>   | <b>2.76</b>     | <b>134,344</b>    |
|                              | Sprinklers                             | 0.55          | 2.76            | 134,344           |
| <b>22</b>                    | <b>Plumbing</b>                        | <b>3.48</b>   | <b>17.47</b>    | <b>849,260</b>    |
|                              | Piping & Fittings                      | 1.53          | 7.67            | 371,988           |
|                              | Fixture Labor                          | 0.65          | 3.28            | 158,998           |
|                              | Grease Trap                            | 0.33          | 1.64            | 79,296            |
|                              | Misc Fitting for Grease Trap           | 0.02          | 0.09            | 3,850             |
|                              | Sample Port                            | 0.02          | 0.09            | 4,333             |
|                              | Water Piping                           | 0.95          | 4.75            | 230,792           |
| <b>23</b>                    | <b>HVAC</b>                            | <b>15.17</b>  | <b>76.11</b>    | <b>3,697,519</b>  |
|                              | Miscellaneous                          | 0.23          | 1.14            | 55,366            |
|                              | AHU Labor & Equipment                  | 2.54          | 12.76           | 619,622           |
|                              | Entech System                          | 2.85          | 14.28           | 693,600           |
|                              | Equipment                              | 2.54          | 12.74           | 618,024           |
|                              | Grease Duct                            | 1.20          | 6.02            | 292,480           |
|                              | Grilles Fans Louvers                   | 0.69          | 3.47            | 168,507           |
|                              | Insulation                             | 0.61          | 3.08            | 149,249           |
|                              | Piping                                 | 2.87          | 14.39           | 699,302           |
|                              | Sheet Metal                            | 1.09          | 5.45            | 264,795           |
| <b>26</b>                    | <b>Electrical</b>                      | <b>11.56</b>  | <b>58.00</b>    | <b>2,818,007</b>  |
|                              | Miscellaneous                          | 0.54          | 2.73            | 132,398           |
|                              | Branch Circuits                        | 2.46          | 12.35           | 600,751           |
|                              | Device Equip Connection                | 0.24          | 1.20            | 57,894            |
|                              | Dimming Panels                         | 0.44          | 2.19            | 106,172           |
|                              | Equipment                              | 0.16          | 0.79            | 38,516            |
|                              | Ext Fixtures Material                  | 0.59          | 2.98            | 144,434           |
|                              | Fixtures                               | 2.52          | 12.63           | 613,846           |
|                              | Gear                                   | 1.25          | 6.28            | 305,151           |
|                              | Int Fixtures Material                  | 1.89          | 9.46            | 459,529           |
|                              | Special Systems Raceway                | 0.99          | 4.97            | 241,446           |
|                              | Switchgear                             | 0.08          | 0.42            | 20,200            |
|                              | Transformers                           | 0.25          | 1.27            | 61,562            |
| <b>27</b>                    | <b>Communications</b>                  | <b>1.81</b>   | <b>9.09</b>     | <b>441,510</b>    |
|                              | AV System                              | 1.13          | 5.66            | 275,133           |
|                              | Clock                                  | 0.06          | 0.32            | 15,322            |
|                              | ISP Cable                              | 0.21          | 1.06            | 51,756            |
|                              | PA System Labor                        | 0.12          | 0.61            | 29,489            |
|                              | Telecommunications 1st Flr VD Trim Out | 0.29          | 1.43            | 69,809            |
| <b>28</b>                    | <b>Electronic Safety and Security</b>  | <b>0.32</b>   | <b>1.60</b>     | <b>78,235</b>     |
| <b>Total M &amp; E Costs</b> |  | <b>32.89</b>  | <b>165.03</b>   | <b>8,018,875</b>  |
| <b>Total Building Costs</b>  |  | <b>100.00</b> | <b>501.64</b>   | <b>24,371,640</b> |

## LOCKER ROOM ADDITION

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### FILE 36



Jesuit College Preparatory's new three-story athletic center in Dallas, Texas consists of three-story, tilt-wall, concrete panels, brick accents, and interior steel frame. To add to the aesthetic, part of the concrete panels at the front of the building were architecturally finished. The fenestration includes punched window openings and glass curtainwall.

Interior improvements include combo restrooms and showers, locker rooms, and conference rooms on the first and second floors. The third floor boasts dedicated video rooms, and a state-of-the-art strength training facility complete with hydrotherapy pools, free weights, and sports medicine tables.

From the beginning, this project was modeled in 3D using conceptual estimating software, to establish the initial project budget from early architectural renderings. Several iterations were created to show cost impact from design changes. Having the entire AEC team local to the area helped facilitate multiple collaborative meetings, from initial planning and throughout the project.

This was critical to the success of the project; since the new building was being constructed on the existing campus all while school was in session. Also, the north end of the building was designed to open up to an existing hallway of the school.

Throughout construction, the model was constantly updated with any changes from the owner, as well as any clashes that were detected during project coordination meetings. These meetings occurred on a weekly basis, and documented through an online project management system used by all members of the team.

The project was completed in only nine months, thanks in part to the collaboration of the project team, and the use of several BIM technologies to communicate information between not only the trades, but to the owner as well. As Jesuit continues to make improvements to their campus, the athletic center will function as the central hub of all of the athletic programs at the school for years to come.

## LOCKER ROOM ADDITION

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| <b>Code</b>                  | <b>Division Name</b>                            | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>                         | <b>2.10</b>   | <b>6.28</b>     | <b>262,231</b>    |
|                              | Water-Based Fire-Suppression                    | 2.10          | 6.28            | 262,231           |
| <b>22</b>                    | <b>Plumbing</b>                                 | <b>5.94</b>   | <b>17.83</b>    | <b>743,331</b>    |
|                              | Plumbing  | 5.94          | 17.83           | 743,331           |
| <b>23</b>                    | <b>HVAC</b>                                     | <b>14.02</b>  | <b>42.09</b>    | <b>1,753,417</b>  |
|                              | HVAC  | 14.02         | 42.09           | 1,753,417         |
| <b>26</b>                    | <b>Electrical</b>                               | <b>8.03</b>   | <b>24.08</b>    | <b>1,003,843</b>  |
|                              | Medium-Voltage Distribution                     | 5.39          | 16.18           | 674,212           |
|                              | Low-Voltage Transmission                        | 0.34          | 1.02            | 42,260            |
|                              | Facility Power Generating & Storing Equipment   | 0.27          | 0.81            | 33,809            |
|                              | Lighting  | 2.03          | 6.08            | 253,562           |
| <b>27</b>                    | <b>Communications</b>                           | <b>0.38</b>   | <b>1.15</b>     | <b>48,005</b>     |
|                              | Data & Voice                                    | 0.14          | 0.41            | 16,904            |
|                              | Audio-Video                                     | 0.14          | 0.41            | 16,904            |
|                              | Distributed Communications & Monitoring Systems | 0.11          | 0.33            | 14,198            |
| <b>Total M &amp; E Costs</b> |   | <b>30.47</b>  | <b>91.43</b>    | <b>3,810,828</b>  |
| <b>Total Building Costs</b>  |   | <b>100.00</b> | <b>300.11</b>   | <b>12,505,992</b> |

## SCHOOL STADIUM

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### FILE 37



Newark Public Schools retained EI Associates to design the replacement of the landmark Newark Schools Stadium. Deteriorated beyond repair, the aged and historic concrete structure had been the venue for countless high school and community sporting events for the City of Newark since 1925 including the 1928 National Women's Olympic Track and Field Trials. The site was also the venue of a track event involving Olympian Jesse Owens.

The recently completed Newark Schools Stadium is reborn as a tribute to its proud and historic past. The design of the new facade pays homage to the original iconic arched columns. A new clock tower/ticket window symbolizes Newark's past while embracing the future. New, multi-purpose synthetic turf fields and stadium lighting accommodate a variety of track and field events as well as football, soccer and softball. Seating for 5,600 spectators is provided along with amenities such as concession areas, team locker and shower rooms and public toilet facilities.

The new Stadium provides a living link to the historical traditions of the Newark Schools and the revitalization of the City of Newark.

EI Associates specializes in the design of K-12 educational facilities. Their project team partnered with their clients from start to finish, producing educational facilities that meet the educational goals while staying on budget, on time, and operating with maximum energy efficiency and minimum maintenance.

## SCHOOL STADIUM

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| <b>Code</b>                  | <b>Division Name</b>                | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>             | <b>0.37</b>   | <b>2.55</b>     | <b>76,513</b>     |
|                              | Water-Based Fire-Suppression System | 0.37          | 2.55            | 76,516            |
| <b>22</b>                    | <b>Plumbing</b>                     | <b>4.19</b>   | <b>29.18</b>    | <b>875,853</b>    |
|                              | Piping & Pumps                      | 2.63          | 18.30           | 549,096           |
|                              | Equipment                           | 0.51          | 3.56            | 106,967           |
|                              | Fixtures                            | 1.05          | 7.32            | 219,789           |
| <b>23</b>                    | <b>HVAC</b>                         | <b>4.69</b>   | <b>32.65</b>    | <b>979,392</b>    |
|                              | Air Distribution                    | 3.21          | 22.37           | 671,342           |
|                              | Central HVAC Equipment              | 1.48          | 10.28           | 308,049           |
| <b>26</b>                    | <b>Electrical</b>                   | <b>8.94</b>   | <b>62.21</b>    | <b>1,866,139</b>  |
|                              | Medium-Voltage Distribution         | 7.89          | 54.94           | 1,647,764         |
|                              | Electrical & Cathodic Protection    | 0.19          | 1.34            | 40,170            |
|                              | Lighting                            | 0.85          | 5.93            | 178,204           |
| <b>27</b>                    | <b>Communications</b>               | <b>0.59</b>   | <b>4.11</b>     | <b>123,251</b>    |
|                              | Audio-Video                         | 0.59          | 4.11            | 123,251           |
| <b>Total M &amp; E Costs</b> |                                     | <b>18.78</b>  | <b>130.70</b>   | <b>3,921,148</b>  |
| <b>Total Building Costs</b>  |                                     | <b>100.00</b> | <b>696.13</b>   | <b>20,884,137</b> |

## MIDDLE SCHOOL

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### FILE 38



The new Kennedy Middle School, designed for grades 6 through 8, provides a complete educational facility that incorporates green design concepts, including daylighting to interior spaces with insulated skylight systems, high-efficiency lighting, the use of local and regional materials, and native landscaping features.

The school's orientation on the site and the building's exterior envelope were both carefully considered to provide optimum energy efficiency. The design of the school uses a prototype layout to assist the school district with providing cost-effective building.

Each grade is self-contained within a building wing and shares common facilities such as the library, art classrooms, computer labs, and resource and special education areas, which are centrally located for easy access. State-of-the-art technology infrastructure has been incorporated in the entire campus.

## MIDDLE SCHOOL

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| <b>Code</b>                  | <b>Division Name</b>           | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|--------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>        | <b>1.03</b>   | <b>2.84</b>     | <b>447,159</b>    |
|                              | Fire Sprinkler                 | 1.03          | 2.84            | 447,159           |
| <b>22</b>                    | <b>Plumbing</b>                | <b>4.56</b>   | <b>12.67</b>    | <b>1,986,081</b>  |
|                              | Equipment                      | 0.07          | 0.19            | 30,962            |
|                              | Fixtures                       | 1.00          | 2.80            | 437,530           |
|                              | Gas                            | 0.12          | 0.33            | 52,196            |
|                              | Insulation                     | 0.20          | 0.55            | 87,789            |
|                              | R/D                            | 0.59          | 1.64            | 254,932           |
|                              | U/P/R/I                        | 1.10          | 3.07            | 480,036           |
|                              | Waste & Vents                  | 0.51          | 1.41            | 220,973           |
|                              | Water Piping                   | 0.97          | 2.70            | 421,663           |
| <b>23</b>                    | <b>HVAC</b>                    | <b>11.68</b>  | <b>32.44</b>    | <b>5,084,216</b>  |
|                              | Start Up Mobilization Bond     | 0.17          | 0.47            | 75,258            |
|                              | Sheet Metal & Fabrication      | 1.65          | 4.60            | 718,785           |
|                              | Duct Installation              | 1.09          | 3.06            | 476,727           |
|                              | Duct Insulation                | 0.29          | 0.82            | 127,613           |
|                              | Arc Piping                     | 0.03          | 0.06            | 11,693            |
|                              | Mechanical Pipe & Installation | 1.28          | 3.55            | 556,215           |
|                              | Pipe Insulation                | 0.32          | 0.88            | 139,816           |
|                              | Equipment & Installation       | 4.64          | 12.92           | 2,020,819         |
|                              | Air Devices & Installation     | 0.25          | 0.70            | 109,244           |
|                              | Controls                       | 1.95          | 5.40            | 848,047           |
| <b>26</b>                    | <b>Electrical</b>              | <b>10.77</b>  | <b>29.94</b>    | <b>4,690,554</b>  |
|                              | Start Up Mobilization & Bond   | 0.19          | 0.54            | 83,455            |
|                              | Rough In                       | 3.44          | 9.57            | 1,499,264         |
|                              | Gear                           | 1.56          | 4.34            | 679,409           |
|                              | Wire                           | 2.35          | 6.52            | 1,022,420         |
|                              | Fixtures                       | 1.57          | 4.38            | 684,534           |
|                              | Devices                        | 0.20          | 0.55            | 87,379            |
|                              | Special Systems                | 1.40          | 3.89            | 608,278           |
|                              | Temporary Power                | 0.06          | 0.17            | 25,818            |
| <b>Total M &amp; E Costs</b> |                                | <b>28.04</b>  | <b>77.89</b>    | <b>12,208,012</b> |
| <b>Total Building Costs</b>  |                                | <b>100.00</b> | <b>277.84</b>   | <b>43,538,747</b> |

## ELEMENTARY SCHOOL

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### FILE 39



The design for Red Hawk Elementary stems from the desire to create a vibrant place for children to learn. The design approach to create this environment centers around a central space that is connected to all parts of the school, and allows for multiple ways of interaction amongst and between students and teachers.

As inspiration, the design team studied scenes of urban areas during street festivals. During these festivals, buildings on each side of the street frame the central space where multiple pavilions of different colors and shapes are set up. The most important aspect of this scene is the movement of people. Their ability to go in and out of the buildings and weave throughout the pavilions is a joyful part of experiencing the festival. This interaction and flexibility is carried through the school in creative spaces for students to learn and interact.

There are many elements in and around the building that allow the teachers and students to interact and learn from their surroundings, from the "Plains to Peak Eco-trail" and the "Interpretive Wall" on the site, to the "Mineral Garden" and the "Weather Funnel" on the interior of the building.

The building also provides a number of passive elements that encourage better learning. The daylighting and views throughout the building keep its occupants connected to the outside and the natural cycle of the sun throughout the day and seasons through the year. Displacement ventilation is used in the entire building to deliver air from the ground-source heat pumps into the occupied zone of each space. This type of air delivery achieves a much higher comfort level due to less fluctuation in room temperatures. This occurs in a way that reduces noise and increases indoor air quality compared to conventional air delivery methods. All of these elements, along with many others, have allowed RB+B to achieve a LEED® Gold Certification and a "Designed to Earn ENERGY STAR®" award.

## ELEMENTARY SCHOOL

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>0.93</b>   | <b>2.23</b>     | <b>165,047</b>    |
|                              | Fire Protection                       | 0.93          | 2.23            | 165,050           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>6.41</b>   | <b>15.40</b>    | <b>1,137,101</b>  |
|                              | Misc.                                 | 1.06          | 2.55            | 187,800           |
|                              | UG Sanitary & Storm                   | 2.44          | 5.88            | 432,847           |
|                              | Domestic Water                        | 0.92          | 2.20            | 162,519           |
|                              | Sump Pumps                            | 0.23          | 0.56            | 41,533            |
|                              | Drain Carriers                        | 0.61          | 1.47            | 108,347           |
|                              | Equipment                             | 0.34          | 0.81            | 59,590            |
|                              | Fixtures                              | 0.81          | 1.96            | 144,463           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>16.04</b>  | <b>38.53</b>    | <b>2,846,093</b>  |
|                              | Air Distribution                      | 0.74          | 1.78            | 131,461           |
|                              | Custom ERV DOAS MAU                   | 4.48          | 10.75           | 794,542           |
|                              | Ductwork                              | 2.95          | 7.08            | 523,316           |
|                              | Heat Pump Equip                       | 1.41          | 3.40            | 251,004           |
|                              | Heat Pump Water Piping                | 1.83          | 4.40            | 325,041           |
|                              | Mechanical Insulation                 | 0.51          | 1.23            | 90,289            |
|                              | Misc.                                 | 0.89          | 2.12            | 157,280           |
|                              | Radiant Flooring Snow Melt            | 0.25          | 0.60            | 45,146            |
|                              | Sheetmetal Specialties                | 0.81          | 1.95            | 143,379           |
|                              | Temp Control                          | 1.18          | 2.84            | 210,085           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>9.18</b>   | <b>22.05</b>    | <b>1,628,905</b>  |
|                              | Branch                                | 1.36          | 3.25            | 240,394           |
|                              | Distribution                          | 1.14          | 2.75            | 202,698           |
|                              | Fire Alarm System                     | 0.58          | 1.40            | 102,252           |
|                              | General Conditions                    | 0.39          | 0.95            | 69,523            |
|                              | Generator                             | 0.41          | 0.99            | 72,023            |
|                              | Lighting                              | 0.30          | 0.72            | 53,334            |
|                              | Lighting Controls                     | 0.56          | 1.34            | 99,264            |
|                              | Lighting Package                      | 2.74          | 6.58            | 485,519           |
|                              | Main Gear                             | 1.18          | 2.83            | 209,715           |
|                              | Mechanical                            | 0.35          | 0.84            | 61,622            |
|                              | Site Lighting                         | 0.07          | 0.18            | 13,299            |
|                              | Utility Entrance                      | 0.11          | 0.27            | 19,259            |
| <b>27</b>                    | <b>Communications</b>                 | <b>1.76</b>   | <b>4.22</b>     | <b>312,182</b>    |
|                              | Sound Reinforcement Systems           | 0.26          | 0.61            | 45,697            |
|                              | Telecommunications                    | 0.55          | 1.31            | 96,810            |
|                              | Intercom System                       | 0.56          | 1.34            | 98,742            |
|                              | Classroom AV Systems                  | 0.21          | 0.51            | 37,466            |
|                              | Clock Systems                         | 0.19          | 0.45            | 33,467            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.30</b>   | <b>0.72</b>     | <b>52,877</b>     |
|                              | Electronic Safety & Security          | 0.30          | 0.72            | 52,876            |
| <b>48</b>                    | <b>Electrical Power Generation</b>    | <b>3.28</b>   | <b>7.87</b>     | <b>581,876</b>    |
|                              | Ground Loop Heat-Pump Piping          | 0.70          | 1.68            | 123,697           |
|                              | Geothermal Permits                    | 2.58          | 6.20            | 458,179           |
| <b>Total M &amp; E Costs</b> |                                       | <b>37.90</b>  | <b>91.02</b>    | <b>6,724,082</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>240.14</b>   | <b>17,740,506</b> |

## ZERO ENERGY CLASSROOM BUILDING

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### FILE 40



This 20-classroom, 38,000-square-foot building project utilizes several energy saving and green building features. It also allows each classroom setting to be customized to suit a variety of academic needs. Solar panels are installed on the building's roof and canopy to offset all energy needs.

The CCPE building design maximizes energy savings by employing manually operable windows and shades on two sides of every classroom to encourage the use of natural daylighting and reduce solar heat gain. If additional lighting is needed, overhead LED lights linked to occupancy sensors are incorporated, allowing lights to automatically shut off when classrooms are not in use.

A radiant heating and cooling system is used as opposed to a traditional heating/cooling system that uses more energy to blow hot or cold air into a room.

Despite the building's energy saving design, to achieve the highest level of energy conservation possible, students and professors will have to interact appropriately with the building's unique features.

These interactions include turning on ceiling fans and opening windows when conditions warrant it, keeping voices at a conversation level in public spaces to promote open windows in classrooms, dressing appropriately for the natural weather outside, and turning off or unplugging devices when not in use.

The CCPE building's net zero energy consumption will contribute directly to goals laid out in the university's Climate Action Plan, which states that the university will achieve climate neutrality by reducing campus greenhouse gas emission to zero by 2030. About a quarter of the campus' greenhouse gas emissions come from purchased electricity; the new building won't contribute to these emissions because it will run solely on renewable energy.

By introducing new standards for energy efficient and sustainable building designs, the CCPE building will positively impact California's environmental health, but it will more immediately affect the CCPE students who previously didn't have a building to call their own.

## ZERO ENERGY CLASSROOM BUILDING

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| <b>Code</b>                  | <b>Division Name</b>                       | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|--|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>                    | <b>0.78</b>   | <b>5.11</b>     | <b>194,130</b>    |
|                              | Fire Sprinklers Custom Color Cover Plates  | 0.66          | 4.30            | 163,552           |
|                              | Added Heads at Non-Combustible Spaces      | 0.07          | 0.45            | 16,854            |
|                              | Misc.                                      | 0.05          | 0.36            | 13,724            |
| <b>22</b>                    | <b>Plumbing</b>                            | <b>2.27</b>   | <b>14.94</b>    | <b>567,706</b>    |
|                              | Excavation for Underground                 | 0.10          | 0.68            | 25,810            |
|                              | Fixtures & Trim Material                   | 0.24          | 1.60            | 60,704            |
|                              | Misc.                                      | 0.53          | 3.49            | 132,872           |
|                              | Piping, Water and Waste                    | 1.40          | 9.16            | 348,320           |
| <b>23</b>                    | <b>HVAC</b>                                | <b>8.09</b>   | <b>53.15</b>    | <b>2,019,482</b>  |
|                              | Air Distribution                           | 1.52          | 10.01           | 380,151           |
|                              | Duct Roof Rough                            | 1.49          | 9.78            | 371,709           |
|                              | Controls                                   | 1.31          | 8.58            | 325,939           |
|                              | Radiant Heat Exchangers                    | 1.08          | 7.10            | 270,063           |
|                              | Misc.                                      | 2.69          | 17.68           | 671,619           |
| <b>26</b>                    | <b>Electrical</b>                          | <b>9.87</b>   | <b>64.84</b>    | <b>2,464,214</b>  |
|                              | Transformer                                | 0.18          | 1.20            | 45,541            |
|                              | Temp Power & Lighting Level 1              | 0.40          | 2.65            | 100,735           |
|                              | Tele Data Cable Trays Infrastructure       | 1.00          | 6.57            | 249,280           |
|                              | Switchgear Switchboards Panels             | 0.19          | 1.22            | 46,449            |
|                              | Submittals Shop Drawings Samples           | 0.25          | 1.64            | 62,235            |
|                              | Power Devices Wire Branch Circuits Level 3 | 0.91          | 6.00            | 227,930           |
|                              | Misc.                                      | 3.65          | 23.97           | 911,066           |
|                              | ME0200 Equipment & Panels                  | 0.11          | 0.74            | 28,392            |
|                              | Lighting Devices Wiring and Fixtures       | 2.88          | 18.94           | 719,677           |
|                              | Fire Alarm System Conduit & Boxes Only     | 0.11          | 0.73            | 27,483            |
|                              | Equipment & Panels                         | 0.18          | 1.19            | 45,427            |
| <b>27</b>                    | <b>Communications</b>                      | <b>3.22</b>   | <b>21.13</b>    | <b>803,117</b>    |
|                              | Small Classrooms 12 Total                  | 1.13          | 7.42            | 282,221           |
|                              | Large Classrooms 3 Total                   | 0.77          | 5.03            | 191,153           |
|                              | Audio Video Conference Center              | 0.73          | 4.80            | 182,271           |
|                              | Exterior Lobby Enclosure Panel             | 0.27          | 1.77            | 66,943            |
|                              | Misc                                       | 0.32          | 2.12            | 80,531            |
| <b>28</b>                    | <b>Electronic Safety and Security</b>      | <b>0.76</b>   | <b>4.98</b>     | <b>189,181</b>    |
|                              | Fire Alarm System                          | 0.56          | 3.67            | 139,581           |
|                              | Misc                                       | 0.20          | 1.31            | 49,600            |
| <b>Total M &amp; E Costs</b> |  | <b>24.99</b>  | <b>164.15</b>   | <b>6,237,829</b>  |
| <b>Total Building Costs</b>  |  | <b>100.00</b> | <b>656.86</b>   | <b>24,960,397</b> |

## ADMINISTRATIVE BUILDING

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### FILE 41



The Consolidated Hardened Maintenance Facility (CHMF) at Valrico is a brand-new campus containing buildings and facilities for Hillsborough County Public Works, Public Utilities and Fleet Maintenance departments.

The largest building on the site is the Core Building. This is a 41,000 sf hurricane hardened tilt-up concrete building that contains office space and warehouse storage space for the Public Works and Public Utilities departments. This building is built to withstand up to 223 mph (ultimate) wind speeds and is intended to survive a Category 5 hurricane. It will therefore allow the County to continue its operations through a hurricane to provide critical infrastructure and utility support immediately following a major storm event. The building contains open office areas for County staff as well as break rooms, toilet and shower facilities, training rooms and a muster room for gathering employees to distribute critical information. Approximately 60% of the Core Building is warehouse space to store supplies and equipment used by County utility staff. The Core Building is connected to back-up emergency generator power.

The Fleet Building is an 11,212 sf pre-engineered metal building with three enclosed vehicle service bays as well as two covered exterior service bays. In addition, the building contains offices, toilet and shower facilities, a break room and a vehicle parts storage room. The bays contain vehicle lifts capable of lifting up to 100,000 pounds, a 2-ton overhead traveling hoist system, and distribution systems for compressed air and various lubricants.

The Fleet Building will enable the County Fleet Maintenance department to service and maintain their fleet of service and emergency vehicles. The building is connected to back-up emergency generator power. The 30 acre site also contains a diesel and gasoline fueling station for County vehicles as well as various out-buildings to provide covered storage for materials and equipment.

The site's history as a former phosphate mine presented unique challenges for the structural design in order to support the buildings on extremely inconsistent soil. The result is a system of nearly 500 65' long concrete piles topped with a 20" thick concrete mat foundation.

## ADMINISTRATIVE BUILDING

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| <b>Code</b> | <b>Division Name</b>                  | <b>%</b>    | <b>S F Cost</b> | <b>Projected</b>  |
|-------------|---------------------------------------|-------------|-----------------|-------------------|
| <b>21</b>   | <b>Fire Suppression</b>               | <b>1.04</b> | <b>4.31</b>     | <b>181,781</b>    |
|             | General Conditions                    | 0.05        | 0.20            | 8,221             |
|             | Fire Suppression                      | 0.99        | 4.12            | 173,560           |
| <b>22</b>   | <b>Plumbing</b>                       | <b>1.85</b> | <b>7.67</b>     | <b>323,369</b>    |
|             | Sanitary                              | 0.79        | 3.25            | 137,021           |
|             | Supply                                | 0.47        | 1.95            | 82,212            |
|             | Fixtures                              | 0.34        | 1.39            | 58,462            |
|             | General Conditions                    | 0.26        | 1.08            | 45,674            |
| <b>23</b>   | <b>HVAC</b>                           | <b>5.34</b> | <b>22.12</b>    | <b>931,987</b>    |
|             | Air Handling                          | 0.89        | 3.68            | 154,897           |
|             | Chilled Water                         | 0.73        | 3.03            | 127,886           |
|             | Ductwork                              | 0.37        | 1.52            | 63,943            |
|             | Exhaust Fans & Curbs                  | 0.26        | 1.08            | 45,674            |
|             | Fire Dampers with Access Doors        | 0.16        | 0.65            | 27,404            |
|             | General Conditions                    | 0.47        | 1.95            | 82,212            |
|             | Insulation                            | 0.89        | 3.69            | 155,290           |
|             | Kitchen Hood Exhaust Fan              | 0.19        | 0.80            | 33,798            |
|             | Registers Grilles Diffusers           | 0.68        | 2.82            | 118,751           |
|             | Split System                          | 0.26        | 1.08            | 45,674            |
|             | Unit Heaters                          | 0.18        | 0.73            | 30,784            |
|             | Water Heaters                         | 0.26        | 1.08            | 45,674            |
| <b>26</b>   | <b>Electrical</b>                     | <b>7.62</b> | <b>31.55</b>    | <b>1,329,333</b>  |
|             | Devices                               | 0.09        | 0.38            | 15,862            |
|             | Distribution Equipment                | 0.92        | 3.82            | 161,166           |
|             | Fixtures                              | 1.34        | 5.56            | 234,442           |
|             | Gear                                  | 0.66        | 2.74            | 115,561           |
|             | General Conditions                    | 0.26        | 1.06            | 44,760            |
|             | Generator                             | 3.13        | 12.98           | 546,860           |
|             | Lighting Fixtures                     | 0.87        | 3.62            | 152,650           |
|             | Ring Power                            | (2.25)      | (9.30)          | (392,093)         |
|             | Rough In                              | 2.58        | 10.68           | 450,124           |
| <b>28</b>   | <b>Electronic Safety and Security</b> | <b>0.49</b> | <b>2.04</b>     | <b>85,866</b>     |
|             | General Conditions                    | 0.03        | 0.11            | 4,567             |
|             | Fire Alarms                           | 0.16        | 0.65            | 27,404            |
|             | Rough In                              | 0.10        | 0.43            | 18,269            |
|             | Rough In                              | 0.09        | 0.37            | 15,529            |
|             | Fire Alarms                           | 0.09        | 0.37            | 15,529            |
|             | General Conditions                    | 0.03        | 0.11            | 4,567             |
|             | <b>Total Building Costs</b>           |             | <b>16.34</b>    | <b>67.69</b>      |
|             | <b>Total Building Costs</b>           |             | <b>100.00</b>   | <b>414.10</b>     |
|             |                                       |             |                 | <b>17,450,279</b> |

## FLEET MAINTENANCE BUILDING

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### FILE 42



The Consolidated Hardened Maintenance Facility (CHMF) at Valrico is a brand-new campus containing buildings and facilities for Hillsborough County Public Works, Public Utilities and Fleet Maintenance departments.

The largest building on the site is the Core Building. This is a 41,000 sf hurricane hardened tilt-up concrete building that contains office space and warehouse storage space for the Public Works and Public Utilities departments. This building is built to withstand up to 223 mph (ultimate) wind speeds and is intended to survive a Category 5 hurricane. It will therefore allow the County to continue its operations through a hurricane to provide critical infrastructure and utility support immediately following a major storm event. The building contains open office areas for County staff as well as break rooms, toilet and shower facilities, training rooms and a muster room for gathering employees to distribute critical information. Approximately 60% of the Core Building is warehouse space to store supplies and equipment used by County utility staff. The Core Building is connected to back-up emergency generator power.

The Fleet Building is an 11,212 sf pre-engineered metal building with three enclosed vehicle service bays as well as two covered exterior service bays. In addition, the building contains offices, toilet and shower facilities, a break room and a vehicle parts storage room. The bays contain vehicle lifts capable of lifting up to 100,000 pounds, a 2-ton overhead traveling hoist system, and distribution systems for compressed air and various lubricants.

The Fleet Building will enable the County Fleet Maintenance department to service and maintain their fleet of service and emergency vehicles. The building is connected to back-up emergency generator power. The 30 acre site also contains a diesel and gasoline fueling station for County vehicles as well as various out-buildings to provide covered storage for materials and equipment.

The site's history as a former phosphate mine presented unique challenges for the structural design in order to support the buildings on extremely inconsistent soil. The result is a system of nearly 500 65' long concrete piles topped with a 20" thick concrete mat foundation.

## FLEET MAINTENANCE BUILDING

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.30</b>   | <b>10.36</b>    | <b>126,399</b>   |
|                              | General Conditions                    | 0.09          | 0.74            | 9,028            |
|                              | Fire Suppression                      | 1.20          | 9.62            | 117,370          |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>4.07</b>   | <b>32.57</b>    | <b>397,254</b>   |
|                              | Fixtures                              | 0.65          | 5.18            | 63,199           |
|                              | Insulation                            | 0.09          | 0.74            | 9,028            |
|                              | Rough In                              | 2.87          | 22.95           | 279,883          |
|                              | Sanitary Drains & Piping              | 0.28          | 2.22            | 27,085           |
|                              | Trim Out                              | 0.19          | 1.48            | 18,057           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>2.92</b>   | <b>23.32</b>    | <b>284,398</b>   |
|                              | Accessories                           | 0.15          | 1.18            | 14,446           |
|                              | Air Handling                          | 0.34          | 2.74            | 33,405           |
|                              | Ductwork                              | 0.76          | 6.07            | 74,034           |
|                              | Exhaust Fans                          | 0.22          | 1.78            | 21,668           |
|                              | Fire Dampers with Access Doors        | 0.06          | 0.52            | 6,320            |
|                              | General Conditions                    | 0.33          | 2.67            | 32,503           |
|                              | Insulation                            | 0.09          | 0.74            | 9,028            |
|                              | Registers Grilles Diffusers           | 0.72          | 5.77            | 70,422           |
|                              | Split System                          | 0.09          | 0.74            | 9,028            |
| <b>26</b>                    | <b>Electrical</b>                     | <b>10.60</b>  | <b>84.79</b>    | <b>1,034,106</b> |
|                              | Devices                               | 0.08          | 0.60            | 7,367            |
|                              | Distribution Equipment                | 1.53          | 12.21           | 148,947          |
|                              | Fixtures                              | 0.60          | 4.82            | 58,841           |
|                              | Gear                                  | 1.13          | 9.07            | 110,599          |
|                              | General Conditions                    | 0.40          | 3.18            | 38,823           |
|                              | Generator                             | 5.54          | 44.32           | 540,502          |
|                              | Fixtures                              | 0.54          | 4.33            | 52,817           |
|                              | Rough In                              | 0.78          | 6.25            | 76,211           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.65</b>   | <b>5.18</b>     | <b>63,199</b>    |
|                              | Fire Alarm                            | 0.37          | 2.96            | 36,114           |
|                              | Structured Cabling                    | 0.28          | 2.22            | 27,085           |
| <b>Total M &amp; E Costs</b> |                                       | <b>19.54</b>  | <b>156.22</b>   | <b>1,905,356</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>799.74</b>   | <b>9,753,587</b> |

## INDUSTRIAL FACILITY

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### FILE 43



More than a century old, ITT Flygt, a division of ITT Water & Wastewater, is an industry leader in submersible pumps, mixers, and mechanical aeration equipment that are used in environments ranging from water and wastewater treatment, raw water supply, abrasive or contaminated industrial processes to mining and construction as well as irrigation. Flygt's corporate office pushed full steam to deliver a fully-equipped facility capable of handling current and foreseeable workload of their Milford, OH branch staff.

The 17,000-square-foot light industrial facility, situated on more than five acres, encountered existing and seasonal demands prior to breaking ground on the new structure. A local design/build company, DER Development Company LLC, moved swiftly into the design development phase of the project drawings with consulting designers.

The building was comprised of approximately 4,819 square feet of administrative office space while allowing 12,172 square feet of shop space. The environmentally-sensitive ITT encouraged fundamental green design best management practices which included a low-slope "cool roof," per the Solar Reflectance Index rating, and one and one-half acres of concrete pavement; both positive contributors to the lessening of the "heat island effect."

Additionally, concrete foundations from the three razed structures were crushed onsite into aggregate and used as base material underneath site pavement. A 5-foot band of translucent panels running the perimeter of the 19-foot eave in the shop, and a low emissivity coating on storefront glass situated on the north side of the structure provided passive natural lighting. Energy-efficient, high-bay T-5 fluorescent fixtures were the chosen shop luminaries.

The shop was also outfitted with a 12.5 ton twin hoist top running crane. The crane runway beams were integrated into the structural design of the pre-engineered metal building. Four one-ton jib cranes added auxiliary lifting capacity for smaller workstations. A 27- x 100-foot wash bay with a heated pressure washer provided equipment cleaning facilities for the service team. Other amenities included a service manager's office, showers and changing space with lockers.

Topping out this functional building, an expansive five acre site was prepared for Flygt providing acres of aggregate and concrete surfaced staging area, fully fenced for security and buffering.

## INDUSTRIAL FACILITY

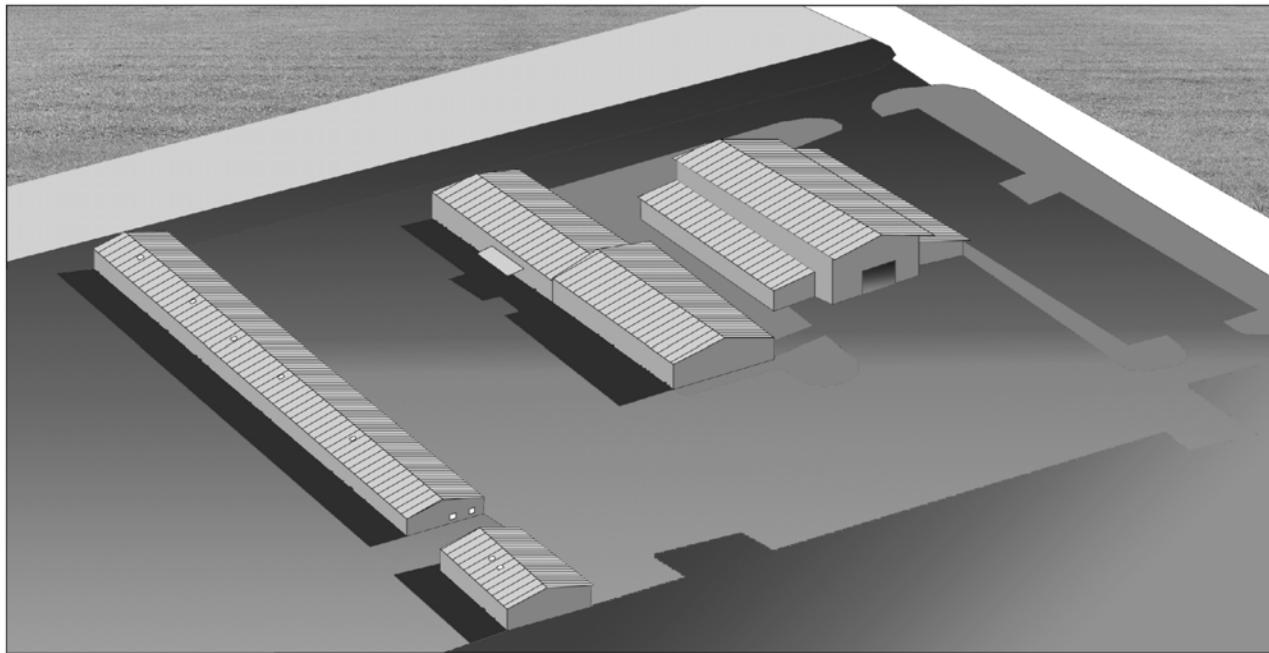
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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>11</b>                    | <b>Equipment</b>                      | <b>7.34</b>   | <b>11.19</b>    | <b>190,115</b>   |
|                              | Dock Leveler                          | 0.26          | 0.40            | 6,728            |
|                              | Casework                              | 0.36          | 0.55            | 9,292            |
|                              | Overhead Crane                        | 3.30          | 5.02            | 85,478           |
|                              | Jib Cranes                            | 2.86          | 4.35            | 74,010           |
|                              | Change Order                          | 0.56          | 0.86            | 14,607           |
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.62</b>   | <b>2.47</b>     | <b>41,848</b>    |
|                              | Fire Suppression                      | 1.62          | 2.47            | 41,848           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>6.30</b>   | <b>9.60</b>     | <b>163,144</b>   |
|                              | Plumbing                              | 2.60          | 3.96            | 67,361           |
|                              | Kleer Water System                    | 3.43          | 5.22            | 88,699           |
|                              | Gas Service                           | 0.07          | 0.09            | 1,859            |
|                              | Change Order                          | 0.17          | 0.26            | 4,288            |
|                              | Second Lavatory                       | 0.04          | 0.05            | 936              |
| <b>23</b>                    | <b>HVAC</b>                           | <b>4.81</b>   | <b>7.32</b>     | <b>124,502</b>   |
|                              | HVAC                                  | 4.81          | 7.32            | 124,502          |
| <b>26</b>                    | <b>Electrical</b>                     | <b>7.85</b>   | <b>11.97</b>    | <b>203,254</b>   |
|                              | Electrical                            | 6.75          | 10.29           | 174,674          |
|                              | Installation of Owner's Equip         | 1.10          | 1.68            | 28,581           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.36</b>   | <b>0.55</b>     | <b>9,292</b>     |
|                              | Fire Alarm                            | 0.36          | 0.55            | 9,292            |
| <b>Total M &amp; E Costs</b> |                                       | <b>20.94</b>  | <b>31.90</b>    | <b>542,038</b>   |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>152.40</b>   | <b>2,589,503</b> |

## MAINTENANCE BUILDINGS

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### FILE 44



This complex consists of four buildings: Administration, Shops, Storage and Chemical Storage.

The Administration Building is the front door of the Complex. The campus material palette of brick, stucco and clay tile was incorporated by both literal and subjective means. The 11,000-square-foot building contains staff offices, Building/Grounds maintenance and custodial services areas, conference and training rooms. The pre-engineered metal building is clad with the campus brick and stucco but the roof consists of standing seam panels with metal applications that have the shape and color of clay tile. The north/south corridor features tall ceilings (in excess of 20 feet) with east facing clerestory windows to bring in dramatic natural lighting.

The Shops building is a pre-engineered metal structure, with metal wall panels (of a finish similar to the campus stucco) along with a wainscot of cast stone and brick. The standing seam metal roof panels are the same color as the Administration Building roof. The building houses carpentry and vehicle maintenance areas. A separation wall occurs between the two shops to accommodate code and the differing clear heights of the two spaces. The carpentry shop consists primarily of relocated tools and equipment from the existing campus woodshop. A new paint booth was installed in this space to paint/lacquer furniture. All of the shop equipment is connected to a dust collection system. The vehicle maintenance area has three service bays, one with a drive thru, the others with a single entry. Vehicle lifts are in two of the bays, a permanent unit in one of the single entry bays and a moveable unit in the drive thru. Service reels are mounted above to provide compressed air, power and a connection to the vehicle exhaust system. A dedicated welding area is in this shop with a moveable exhaust apparatus. Each shop has an office, sink and emergency eyewash. Two restrooms and a shower occur between the two shops. A paved covered breezeway connects the shop and administration buildings.

The Storage building is to the west of the Shops building. This pre-engineered metal building contains equipment for the following departments: Custodial, Electrical, Building, Grounds and Mechanical maintenance. A bay of covered exterior storage occurs on the north end of the building.

Chemical storage for Grounds and Building maintenance occurs to the north of the Storage Building.

## MAINTENANCE BUILDINGS

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| <b>Code</b>                  | <b>Division Name</b>           | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|--------------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>        | <b>2.42</b>   | <b>4.70</b>     | <b>52,845</b>    |
|                              | Fire Protection Shop Drawings  | 0.18          | 0.35            | 3,854            |
|                              | Fire Protection Mat            | 0.97          | 1.89            | 21,137           |
|                              | Fire Protection Lab            | 1.28          | 2.47            | 27,854           |
| <b>22</b>                    | <b>Plumbing</b>                | <b>3.72</b>   | <b>7.21</b>     | <b>80,979</b>    |
|                              | Fixtures & Drains Mat          | 3.15          | 6.09            | 68,746           |
|                              | Fixtures & Drains Lab          | 0.56          | 1.08            | 12,233           |
| <b>23</b>                    | <b>HVAC</b>                    | <b>26.81</b>  | <b>51.93</b>    | <b>584,328</b>   |
|                              | Submittals & Shop Drawings     | 0.32          | 0.61            | 6,899            |
|                              | Mobilization                   | 0.32          | 0.61            | 6,899            |
|                              | Duct Mat                       | 0.56          | 1.08            | 12,233           |
|                              | Duct Fabrication               | 1.01          | 1.96            | 22,020           |
|                              | Duct Install                   | 1.23          | 2.39            | 26,912           |
|                              | Piping Mat                     | 0.63          | 1.22            | 13,701           |
|                              | Piping Lab                     | 0.57          | 1.11            | 12,477           |
|                              | Equipment Mat (Split Sys)      | 0.39          | 0.77            | 8,563            |
|                              | Equipment Mat (Heaters)        | 3.93          | 7.62            | 85,628           |
|                              | Equipment Mat (Dust Collector) | 14.03         | 27.19           | 305,815          |
|                              | Equipment Mat (Fan)            | 0.45          | 0.87            | 9,787            |
|                              | Equipment Mat (Fume Hoods)     | 1.35          | 2.60            | 29,358           |
|                              | Equipment Mat (Unit Heaters)   | 0.28          | 0.55            | 6,116            |
|                              | Equipment Mat (Louvers)        | 0.39          | 0.77            | 8,563            |
|                              | Equipment Lab                  | 0.31          | 0.61            | 6,851            |
|                              | HVAC Insulation                | 0.34          | 0.65            | 7,341            |
|                              | TAB                            | 0.34          | 0.65            | 7,341            |
|                              | Submittals & Engineering       | 0.36          | 0.70            | 7,828            |
| <b>26</b>                    | <b>Electrical</b>              | <b>25.94</b>  | <b>50.27</b>    | <b>565,400</b>   |
|                              | Site Mat                       | 3.72          | 7.21            | 81,021           |
|                              | Site Lab                       | 2.78          | 5.38            | 60,557           |
|                              | Building Feeders Mat           | 2.88          | 5.58            | 62,842           |
|                              | Building Feeders Lab           | 1.29          | 2.51            | 28,091           |
|                              | Rough In Mat                   | 0.99          | 1.92            | 21,583           |
|                              | Rough In Lab                   | 1.34          | 2.59            | 29,184           |
|                              | Light Fixtures Int Mat         | 1.29          | 2.50            | 28,013           |
|                              | Light Fixtures Ext Mat         | 2.77          | 5.36            | 60,444           |
|                              | Light Fixtures Lab             | 0.50          | 0.99            | 10,954           |
|                              | Gear Mat                       | 6.17          | 11.97           | 134,560          |
|                              | Gear Lab                       | 0.56          | 1.08            | 12,233           |
|                              | Lightning Protection           | 1.65          | 3.19            | 35,917           |
| <b>Total M &amp; E Costs</b> |                                | <b>58.89</b>  | <b>114.09</b>   | <b>1,283,553</b> |
| <b>Total Building Costs</b>  |                                | <b>100.00</b> | <b>193.73</b>   | <b>2,179,578</b> |

## HOSPITAL

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### FILE 45



Tippah County Hospital originally opened its doors in 1950 after being one of the first land sites approved in the Nation under the Hill-Burton Act. The aging facility was due for an upgrade to help better serve the rural area of Tippah County. TCH solicited Dean Architecture to provide planning and design services for a new replacement facility that would improve the functional and operational efficiencies for each department within the hospital.

Dean Architecture worked closely with the hospital administration and staff to program and develop a design that met TCH's needs to serve the community and surrounding areas for decades to come.

The new Critical Access Hospital replacement facility is a one-story 63,620-square-foot structure which consists of 25 ADA-compliant med-surg patient rooms, a full service nine-room Emergency Department, Imaging Suite with mobile MRI, Outpatient Surgery Suite, Specialty/Outpatient Clinic, Inpatient Rehab Suite, Intensive Outpatient Program Suite, Respiratory Suite, Pharmacy, Lab, Cafeteria/Dietary Service, and requisite ancillary spaces.

The facility provides a six-exam Rural Health Clinic that is connected to the Emergency Department Waiting Room for patient convenience. The facility has a physical connection to the existing county-owned nursing home for the new food service department to serve the nursing home patients and staff. The new cafeteria is designed to serve the public and provides a separate exterior entrance for patrons.

The new hospital is Tippah County's premier health care facility. The staff is committed to providing a resource for quality services and compassionate care for the immediate and surrounding community.

## HOSPITAL

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| <b>Code</b>                  | <b>Division Name</b>         | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>      | <b>1.01</b>   | <b>5.69</b>     | <b>361,818</b>    |
|                              | Fire Protection              | 1.01          | 5.69            | 361,818           |
| <b>22</b>                    | <b>Plumbing</b>              | <b>12.77</b>  | <b>72.04</b>    | <b>4,583,013</b>  |
|                              | Chilled Water                | 1.52          | 8.56            | 544,620           |
|                              | Consummables                 | 0.25          | 1.41            | 89,527            |
|                              | Domestic Water               | 2.48          | 14.01           | 891,535           |
|                              | Fixtures                     | 1.23          | 6.93            | 440,918           |
|                              | General Conditions           | 0.97          | 5.48            | 348,407           |
|                              | Heating Water                | 1.57          | 8.85            | 563,271           |
|                              | Medical Gas                  | 1.65          | 9.32            | 593,113           |
|                              | Natural Gas                  | 0.26          | 1.47            | 93,257            |
|                              | Rough in                     | 2.84          | 16.01           | 1,018,364         |
| <b>23</b>                    | <b>HVAC</b>                  | <b>14.59</b>  | <b>82.32</b>    | <b>5,237,163</b>  |
|                              | Air Cooled Chillers          | 0.94          | 5.29            | 336,657           |
|                              | Air Handling                 | 4.04          | 22.80           | 1,450,377         |
|                              | Bipolar Ionization           | 0.47          | 2.64            | 167,862           |
|                              | Boilers Pumps Etc            | 1.21          | 6.83            | 434,577           |
|                              | Ductwork                     | 2.98          | 16.80           | 1,068,723         |
|                              | General Conditions           | 3.13          | 17.65           | 1,122,812         |
|                              | Insulation                   | 1.51          | 8.50            | 540,890           |
|                              | Refrigeration Linesets       | 0.13          | 0.73            | 46,628            |
|                              | Split Systems                | 0.19          | 1.08            | 68,637            |
| <b>25</b>                    | <b>Integrated Automation</b> | <b>0.44</b>   | <b>2.49</b>     | <b>158,537</b>    |
|                              | Vibration & Seismic Controls | 0.44          | 2.49            | 158,537           |
| <b>26</b>                    | <b>Electrical</b>            | <b>14.14</b>  | <b>79.79</b>    | <b>5,076,341</b>  |
|                              | Conduit & Conductors         | 7.78          | 43.90           | 2,793,042         |
|                              | Fixtures                     | 1.87          | 10.55           | 671,449           |
|                              | General Conditions           | 0.72          | 4.05            | 257,762           |
|                              | Generator                    | 1.71          | 9.67            | 615,495           |
|                              | Lightning Protection         | 0.36          | 2.05            | 130,560           |
|                              | Pendant Lighting             | 0.04          | 0.22            | 13,989            |
|                              | Switchgear & Panelboards     | 1.65          | 9.34            | 594,046           |
| <b>27</b>                    | <b>Communications</b>        | <b>2.15</b>   | <b>12.11</b>    | <b>770,301</b>    |
|                              | Fire Alarm                   | 0.75          | 4.25            | 270,445           |
|                              | Nurse Patient Comm.          | 1.39          | 7.86            | 499,857           |
| <b>Total M &amp; E Costs</b> |                              | <b>45.10</b>  | <b>254.44</b>   | <b>16,187,173</b> |
| <b>Total Building Costs</b>  |                              | <b>100.00</b> | <b>564.32</b>   | <b>35,901,744</b> |

## ORTHOPEDIC CENTER

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### FILE 46



Stegenga + PARTNERS worked methodically with the client to understand the needs of the medical professionals and the expectations of the patients. By collaborating closely with orthopedic specialists and physical therapists, they applied invaluable insights into the client's workflows, desired patient experiences, and technical requirements.

A key to the success is the streamlined patient experience and efficient workflow. The Optim Orthopedic Center is divided into zones that cater to different stages of patient care: the MRI, Physical Therapy (PT), and Clinic Suites. The MRI Suite offers privacy and convenience to patients undergoing imaging procedures. The PT Suite boasts a dynamic space that caters to various physical therapy modalities while promoting a sense of community and support. The Clinic Suite embodies Optim's commitment to a patient-centric design. The exam modules are designed to facilitate smooth patient flow, ensure acoustical and visual privacy, and provide therapeutic efficiency during consultations and procedures.

The facility's interior layout optimizes patient flow, ensuring easy navigation for both patients and medical staff. Bright, open spaces, high ceilings, and strategically placed artwork create an inviting atmosphere that encourages optimism and a positive mindset for patients on their road to recovery. The digital imaging suite is equipped with the latest MRI and x-ray scan technology, giving the Care Team access to the highest quality medical imaging.

Waiting areas are strategically placed near windows, offering vistas of the outdoors to create a calming atmosphere. The facility is also designed to support a new second floor ambulatory surgery center (ASC).

The building mechanical system is a complete VRF system. Ground-level service gardens keep the mechanical units off the building roof. The future emergency generator will also be protected in the service garden for use during power outages or natural disasters.

By crafting a clinic that fosters positive healing, nurtures patient well-being, and harnesses advanced technologies, Optim Orthopedics is setting a new benchmark in orthopedic care.

## ORTHOPEDIC CENTER

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| <b>Code</b>                  | <b>Division Name</b>                    | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>                 | <b>1.40</b>   | <b>5.09</b>     | <b>113,469</b>   |
|                              | Fire Sprinkler System                   | 1.40          | 5.09            | 113,469          |
| <b>22</b>                    | <b>Plumbing</b>                         | <b>2.45</b>   | <b>8.95</b>     | <b>199,361</b>   |
|                              | Plumbing                                | 2.42          | 8.82            | 196,548          |
|                              | Condensate Drain for MUAU               | 0.03          | 0.13            | 2,814            |
| <b>23</b>                    | <b>HVAC</b>                             | <b>11.80</b>  | <b>43.06</b>    | <b>959,524</b>   |
|                              | HVAC Controls                           | 2.08          | 7.58            | 168,831          |
|                              | HVAC Equipment                          | 7.99          | 29.17           | 650,000          |
|                              | Metal Ducts                             | 1.73          | 6.31            | 140,693          |
| <b>26</b>                    | <b>Electrical</b>                       | <b>11.25</b>  | <b>41.07</b>    | <b>915,185</b>   |
|                              | Raceways Boxes & Systems                | 7.53          | 27.47           | 612,013          |
|                              | Nurse Call                              | 0.09          | 0.32            | 7,035            |
|                              | Lighting                                | 3.03          | 11.05           | 246,212          |
|                              | Add Floor Boxes to PT                   | 0.05          | 0.17            | 3,714            |
|                              | Electric Strikes for Security Vendor    | 0.03          | 0.09            | 2,043            |
|                              | Additional Outlets MD Dictation Areas   | 0.08          | 0.31            | 6,840            |
|                              | Additional Outlet in Exam Rooms         | 0.08          | 0.30            | 6,584            |
|                              | Additional Outlet in each Extender Area | 0.02          | 0.07            | 1,519            |
|                              | Exterior Accent Lighting                | 0.30          | 1.08            | 24,095           |
|                              | Move In Power Needs                     | 0.06          | 0.23            | 5,128            |
| <b>27</b>                    | <b>Communications</b>                   | <b>0.35</b>   | <b>1.26</b>     | <b>28,139</b>    |
|                              | Telephone Data Raceway System           | 0.09          | 0.32            | 7,035            |
|                              | Addressable Fire Alarm System           | 0.26          | 0.95            | 21,104           |
| <b>Total M &amp; E Costs</b> |   | <b>27.25</b>  | <b>99.43</b>    | <b>2,215,678</b> |
| <b>Total Building Costs</b>  |   | <b>100.00</b> | <b>364.96</b>   | <b>8,132,367</b> |

### FILE 47



Critical Access Hospitals (CAH) do not have to be unimaginative and look inferior to larger health care providers. Actually, CAHs can be dynamic elements in their communities and emanate an image of high-quality health care services. This is what TEG Architects has accomplished with the North Caddo Medical Center (NCMC) in the Northern Caddo Parish in Louisiana.

The components of this CAH are similar to most hospitals of this nature, with the exception of a 9,000-square-foot clinic attached to the facility. NCMC's clinic serves to educate future rural physicians through their LSU/NCMC Rural Residency Program, a unique asset to the community as well as the university.

The USDA funding process required that design development and construction documentation commence and close within a 10-week period. TEG accepted and fulfilled this challenge. Working closely with the hospital administration and staff, TEG was able to complete the project's design development within two weeks. An expedited eight-week construction document schedule followed, resulting in a project delivered on time for USDA review, as well as a project thoroughly detailed for the public bidding process.

TEG delivered this 72,000-square-foot rural replacement hospital with innovative design and efficiency. The main exterior materials of the facility are brick veneer, aluminum metal panel, and aluminum curtain wall. Design and materials were selected to highlight modern health care while embracing its rural location. Major departments with potential for growth, such as the emergency department, surgery, and the imaging room are located on the perimeter of the building.

The laboratory, physical therapy room, and pharmacy are all located in the ancillary core due to the importance of their adjacency to other departments. Twenty-five patient rooms and an obstetrics department with two labor, delivery and recovery rooms are located on the second floor, along with administration and some multi-purpose meeting rooms. All patient rooms are private, with accessible toilets and showers and a large exterior window. The new medical center to serve the Northern Caddo Parish in Louisiana will be a facility efficiently serving the local community for the next four decades.

## MEDICAL CENTER

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| <b>Code</b>                  | <b>Division Name</b>    | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b> | <b>1.04</b>   | <b>5.38</b>     | <b>388,828</b>    |
|                              | Fire Protection         | 1.04          | 5.38            | 388,828           |
| <b>22</b>                    | <b>Plumbing</b>         | <b>14.01</b>  | <b>72.69</b>    | <b>5,251,053</b>  |
|                              | Plumbing                | 14.01         | 72.69           | 5,251,053         |
| <b>23</b>                    | <b>HVAC</b>             | <b>15.72</b>  | <b>81.57</b>    | <b>5,892,599</b>  |
|                              | HVAC                    | 15.72         | 81.57           | 5,892,599         |
| <b>26</b>                    | <b>Electrical</b>       | <b>10.73</b>  | <b>55.67</b>    | <b>4,020,972</b>  |
|                              | Electrical              | 10.73         | 55.67           | 4,020,972         |
| <b>Total M &amp; E Costs</b> |                         | <b>41.50</b>  | <b>215.31</b>   | <b>15,553,452</b> |
| <b>Total Building Costs</b>  |                         | <b>100.00</b> | <b>519.05</b>   | <b>37,490,968</b> |

## MEDICAL OFFICE / CLINIC

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### FILE 48



Myers Anderson Architects was selected through a qualifications-based process to provide complete architectural and engineering services for a new 7,600-square-foot office/clinic building. The office/clinic was planned to serve Minidoka and Cassia counties in southern Idaho for the South Central Public Health District.

Myers Anderson worked with the administration, staff, and stakeholders to determine the specific needs of the regional facility. Their goal was to design a facility that would meet the goals and vision of the public health district that would best serve the citizens of southern Idaho and the surrounding area.

Construction was completed in 10 months. The new facility is a masonry and wood-framed building, and includes seven offices, two privacy rooms, two classrooms, two self-care rooms, two exam rooms, an expanded pharmacy and nurses' station, and separate offices for the Health Educator and environmental health offices.

The work on this project also included a complete site work and landscape design. The end result is a facility that enhances the efficiency of the program in all facets of the South Central Public Health District's operations, and serves the public efficiently and comfortably. The facility surpasses the specific needs of the community and works to continually serve the goals and visions of the district.

## MEDICAL OFFICE / CLINIC

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| <b>Code</b>                  | <b>Division Name</b> | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|----------------------|---------------|-----------------|------------------|
| <b>22</b>                    | <b>Plumbing</b>      | <b>5.76</b>   | <b>14.55</b>    | <b>110,868</b>   |
|                              | Plumbing             | 5.76          | 14.55           | 110,868          |
| <b>23</b>                    | <b>HVAC</b>          | <b>9.53</b>   | <b>24.12</b>    | <b>183,603</b>   |
|                              | HVAC                 | 8.75          | 22.13           | 168,532          |
|                              | HVAC Change          | 0.78          | 1.97            | 15,072           |
| <b>26</b>                    | <b>Electrical</b>    | <b>10.07</b>  | <b>25.47</b>    | <b>194,002</b>   |
|                              | LV Trans & Lighting  | 10.07         | 25.47           | 194,002          |
| <b>Total M &amp; E Costs</b> |                      | <b>25.36</b>  | <b>64.14</b>    | <b>488,474</b>   |
| <b>Total Building Costs</b>  |                      | <b>100.00</b> | <b>252.86</b>   | <b>1,925,851</b> |

## ORTHOPEDIC CLINIC

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### FILE 49



Peachtree Orthopedic Clinic opened another flagship location on the west side of Atlanta, reflecting its vision for patient-centered healthcare and its long-term history with the community. The new West Paces flagship clinic totals 27,605 square feet, is on the penthouse seventh floor, and in a building at one of the highest elevations in Atlanta. In addition to the soaring 360-degree views, the clinic features 25 exam rooms, four cast rooms, two X-ray suites, a special suite of durable medical equipment and prosthetics, an in-house pharmacy, a large physical therapy gym including hand therapy areas, private treatment rooms, and a full complement of sports medicine exercise equipment. The new clinic also includes a separate, but adjacent, MRI diagnostic suite to fulfill the promise of convenient patient-centered care.

The new clinical spaces are designed with best practices and evidence-based design principals. One example is the application of single-handed exam rooms, where every physician and staff member can use any of the 29 exam rooms without having to hunt for supplies, so they can spend their time to more effectively focus on the patient.

The wall-to-wall, floor-to-ceiling window systems provide each space with all-important access to natural views and daylight. Natural light floods the exam modules and enlivens the most interior of spaces.

During the planning of this facility, user-intensive meetings brought together groups of physicians, nurses, and extenders to discuss work flow and process issues, and how these clinical and business concepts affected design needs. Technology was a particularly important planning issue, as the clinic has embraced electronic health records, internet-based appointment scheduling, and other technologies that help improve the patient experience while combating a healthcare workforce shortage.

Peachtree Orthopedics' West Paces clinic enhances patient-centered design, with a vision to the future. While healthcare is plagued with uncertainty, and changes are sweeping the healthcare industry, the West Paces clinic is designed with flexibility and durability in mind. Long-lasting, low-maintenance materials, non-load-bearing steel partitions, and strategic placement of utilities and infrastructure provide the future flexibility to relocate walls, reorganize spaces, and keep the clinic looking its best for years to come so that the providers can focus on the patients.

**ORTHOPEDIC CLINIC**

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| <b>Code</b>                  | <b>Division Name</b>        | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-----------------------------|---------------|-----------------|------------------|
| <b>11</b>                    | <b>Equipment</b>            | <b>0.10</b>   | <b>0.20</b>     | <b>5,609</b>     |
|                              | PCO 9 Altus Fan             | 0.10          | 0.20            | 5,609            |
| <b>15</b>                    | <b>Mechanical</b>           | <b>26.60</b>  | <b>53.39</b>    | <b>1,473,622</b> |
|                              | Fire Protection             | 3.04          | 6.11            | 168,498          |
|                              | Mechanical                  | 23.40         | 46.95           | 1,296,148        |
|                              | PCO 27 OAU Heaters          | 0.16          | 0.33            | 8,975            |
| <b>16</b>                    | <b>Electrical</b>           | <b>17.23</b>  | <b>34.59</b>    | <b>954,374</b>   |
|                              | Electrical                  | 17.32         | 34.76           | 959,447          |
|                              | PCO 14 Delete Floor Boxes   | (0.03)        | (0.08)          | (1,930)          |
|                              | PCO 23 715 & 739 Electrical | 0.03          | 0.05            | 1,425            |
|                              | PCO 25 Credit Type Fixtures | (0.08)        | (0.17)          | (4,568)          |
| <b>Total M &amp; E Costs</b> |                             | <b>43.93</b>  | <b>88.18</b>    | <b>2,433,605</b> |
| <b>Total Building Costs</b>  |                             | <b>100.00</b> | <b>200.67</b>   | <b>5,539,489</b> |

## SENIOR LIVING FACILITY

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### FILE 50



The Pines is a 23,000-square-foot assisted memory care unit with 22 beds for persons with various stages of memory loss. This is the third major project SLA Architects has completed for Rolling Meadows.

The architecture of this state-of-the-art facility complements and enhances the existing campus theme. Large expanses of glass and light wells via dormers bring natural light to the interior spaces. Expansive overhangs and canopies provide covered pathways, as well as protection from the summer sun. A unique meditation garden was designed in collaboration with the nationally recognized landscape architect Jack Carman, from Design for Generations, LLC. The meditation garden provides a quiet area for peace and harmony with nature. A contemporary sunscreen arbor structure provides outdoor shade protection from the late afternoon western sun.

Interior finishes are based on a color palette that enhances wayfinding and provides a comfortable homelike environment. Wood flooring of various patterns with wood trim detailing and wainscoting enhance the interior, imparting a peaceful, relaxing lifestyle.

Large living areas include a communal dining hall, an ultramodern kitchen, a living/lounge area for socialization and relaxation, an activity room for exercise, a garden room, a therapy room, and a complete salon.

Staff support areas, such as laundry, medication, and linen storage, are strategically placed for optimum function. Each bedroom suite has a separate bath, and all units are ADA compliant.

The architecture brings this assisted memory care facility to life by providing plenty of warm, natural sunlight to enlighten dimming memories, along with its meditation garden for patients and caregivers.

## SENIOR LIVING FACILITY

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>2.52</b>   | <b>10.21</b>    | <b>236,417</b>   |
|                              | Fire Sprinkler                        | 2.52          | 10.21           | 236,417          |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>6.23</b>   | <b>25.25</b>    | <b>584,370</b>   |
|                              | Plumbing                              | 6.06          | 24.58           | 568,874          |
|                              | Gas Tank                              | 0.17          | 0.68            | 15,496           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>7.53</b>   | <b>30.50</b>    | <b>706,001</b>   |
|                              | Mechanical                            | 7.53          | 30.50           | 706,001          |
| <b>26</b>                    | <b>Electrical</b>                     | <b>11.03</b>  | <b>44.72</b>    | <b>1,034,918</b> |
|                              | Fixtures                              | 3.40          | 13.76           | 318,533          |
|                              | Gear                                  | 0.62          | 2.52            | 58,108           |
|                              | Site                                  | 0.31          | 1.25            | 29,055           |
|                              | Generator                             | 0.94          | 3.80            | 88,035           |
|                              | Rough Electric                        | 4.03          | 16.32           | 377,706          |
|                              | Finish Electrical                     | 1.74          | 7.07            | 163,479          |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.57</b>   | <b>2.32</b>     | <b>53,571</b>    |
|                              | Nurse Call                            | 0.57          | 2.32            | 53,571           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.77</b>   | <b>7.17</b>     | <b>166,003</b>   |
|                              | Fire Alarm                            | 1.20          | 4.85            | 112,179          |
|                              | Security Door Sys                     | 0.57          | 2.32            | 53,824           |
| <b>Total M &amp; E Costs</b> |                                       | <b>29.65</b>  | <b>120.18</b>   | <b>2,781,279</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>405.31</b>   | <b>9,379,684</b> |

### FILE 51



Heritage Oaks of Englewood, Florida, is a new signature assisted living and memory care facility. This new 118-unit assisted living community includes a 32-unit memory care neighborhood, and is in close proximity to world-class healthcare, cultural venues, shopping, and fine dining. This 96,283-square-foot, one-of-a-kind community offers a luxurious lifestyle, with concierge services, chef-prepared meals, housekeeping and more, without a large investment or long-term commitment. Various floor plans feature spacious one-bedroom and one-bath units as well as deluxe two-bedroom and two-bath units.

For the design of Heritage Oaks, the interior spaces are configured for openness that promotes social interaction. Community spaces are intended to serve as the residents' family room. This innovative design provides indoor and outdoor spaces for meeting, entertaining, arts and crafts, wellness, dining, the development of computer skills, and recreation.

Heritage Oaks provides residents and their loved ones with comfort, security, and peace of mind. All spaces are designed with rich, durable materials designed to last. LED lighting is enhanced to create a warm, friendly, and sustainable environment. Healthy mental stimulation through environmental design, along with easy wayfinding for residents, contribute to a healthy, fearless, and meaningful lifestyle for the residents, visitors, and staff.

Heritage Oaks sits on over 10 acres of a planned community, and provides more than 60 parking spaces to support the mobility of the residents and their visitors. Having access to nature and the outdoors has long been considered therapeutic for the elderly residents. Research is beginning to confirm that spending time outdoors has many important health benefits, even to the point of increasing longevity.

With this in mind, the exterior landscape design includes looped walking paths and spaces that support continuous footsteps, plenty of shade to protect residents from overexposure to the sun, and comfortable seating which provides areas of rest.

Heritage Oaks has been planned with assisted living in mind, providing a well-designed, friendly, and relaxed community to fill every need of people looking for an assisted living or memory care residence.

## ASSISTED LIVING

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>11</b>                    | <b>Equipment</b>                      | <b>2.24</b>   | <b>6.75</b>     | <b>649,165</b>    |
|                              | Food Svc Equip & Laundry Equip        | 1.74          | 5.25            | 504,500           |
|                              | Residential Appliances                | 0.50          | 1.50            | 144,663           |
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.23</b>   | <b>3.70</b>     | <b>355,800</b>    |
|                              | Fire Sprinkler Sys                    | 1.23          | 3.70            | 355,800           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>7.17</b>   | <b>21.56</b>    | <b>2,075,444</b>  |
|                              | Plumbing Sys & Fixtures               | 7.17          | 21.56           | 2,075,444         |
| <b>23</b>                    | <b>HVAC</b>                           | <b>7.32</b>   | <b>22.00</b>    | <b>2,118,752</b>  |
|                              | Equip Ductwork & Accessories          | 7.32          | 22.00           | 2,118,752         |
| <b>26</b>                    | <b>Electrical</b>                     | <b>13.08</b>  | <b>39.30</b>    | <b>3,782,984</b>  |
|                              | Electrical System & Fixtures          | 13.08         | 39.30           | 3,782,984         |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.55</b>   | <b>1.65</b>     | <b>158,614</b>    |
|                              | Unit Smoke Detector Monitoring        | 0.55          | 1.65            | 158,614           |
| <b>Total M &amp; E Costs</b> |                                       | <b>31.59</b>  | <b>94.94</b>    | <b>9,140,759</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>300.47</b>   | <b>28,929,640</b> |

## MEDICAL OFFICE

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### FILE 52



Michael Brady, Inc. was selected by Southeastern Dermatology Consultants (SDC) to design a new 6,100-square-foot office building which includes designated areas for consultations, examinations, procedures, and product display. Located within an existing office park, site circulation, building scale and positioning were major concerns during design.

Reflective glass was chosen for privacy of patients and staff as they conduct exams and procedures. The entrance was highlighted with a raised section of roof and stone. The stone stops short of the roof eave line – providing a feeling of lightness to the entrance roof. A secondary accent wall, for branding purposes, is located on the building's south elevation, which faces the main road and neighboring drive-through coffeehouse.

Flow of patients and staff through the office is vital to creating an efficient practice. Exam and procedure rooms are placed along the building perimeter, with clerestory windows so patients have access to natural light during their visit. Interior corridors allow simple circulation from patient check in to check out, and easy transition between patients for staff. Large storage closets are designed throughout the building for convenient laser and equipment storage.

There is a small lounge for patients to relax in while waiting for local anesthetics to take effect before procedures, located between the exam and procedure areas. A special retail space off the main waiting room displays products available for purchase.

Interior spaces promote a relaxing environment, giving patients a sense of calm while they are in the office. The warm neutral and steel blue colors help create a medical spa environment that is comfortable and gender neutral.

Accent lighting and luxury finishes add a touch of glamour that delivers a subtle elegance. Casework in the exam and procedure rooms are medical grade pre-manufactured steel cabinet units with a wood grain veneer; they will withstand constant use as well as integrate with the decor and provide flexibility of reconfiguring as the practice grows. Custom product displays for the retail space were designed to be reminiscent of apothecary cabinets – with glass doors, heavy handles with back-plates, and metal storefront display shelves.

All these effects help to create an inviting and warm medical, surgical, and cosmetic dermatology building that is both inviting and friendly to patients.

## MEDICAL OFFICE

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| Code                         | Division Name     | %             | S F Cost      | Projected        |
|------------------------------|-------------------|---------------|---------------|------------------|
| 22                           | <b>Plumbing</b>   | <b>6.47</b>   | <b>24.59</b>  | <b>150,280</b>   |
|                              | Plumbing          | 6.47          | 24.59         | 150,280          |
| 23                           | <b>HVAC</b>       | <b>6.83</b>   | <b>25.93</b>  | <b>158,499</b>   |
|                              | HVAC              | 6.83          | 25.93         | 158,499          |
| 26                           | <b>Electrical</b> | <b>13.70</b>  | <b>52.03</b>  | <b>317,891</b>   |
|                              | Electric          | 13.70         | 52.03         | 317,891          |
| <b>Total M &amp; E Costs</b> |                   | <b>27.00</b>  | <b>102.55</b> | <b>626,669</b>   |
| <b>Total Building Costs</b>  |                   | <b>100.00</b> | <b>379.85</b> | <b>2,320,934</b> |

## VETERINARY CLINIC

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### FILE 53



The North Loop neighborhood in Minneapolis is a collection of historic warehouses on the edge of the downtown business district.

In the past 15 years, the North Loop has seen a housing explosion, filling the rehabbed old warehouses and modern infill construction. Even with thousands of pets accompanying these new neighborhood residents, there was no veterinary clinic in the North Loop and only one other clinic downtown. Modern Love Veterinary Clinic saw an obvious need and identified a centrally-located historic warehouse to launch their dream. They contacted Karkela Construction and Shelter Architecture as the team to design and build the clinic.

The 2,555-square-foot space was extremely small for the planned veterinary clinic, which was to include space for reception and waiting, four exam rooms, lab, treatment area, imaging, surgery and dental rooms, dog and cat holding rooms, and staff lounge and office space. Further complicating the program and schedule was that part of the space was still occupied by a tenant who wouldn't move out until partway through construction.

Shelter Architecture worked with the client to craft a design that would get the most use out of the available space. Every room was optimized for size. Some functions were made to overlap, such as the lab and treatment area. Prior to completion of the second phase, staff used laptops and iPads in exam rooms before their office space could be built in the previously tenant-occupied area.

The old masonry walls had very few openings, so Shelter Architecture obtained copies of original blueprints and historic photos to coordinate large new openings for windows that would conform with the Historic Guidelines the city required while providing the bright spaces the client desired.

The client wanted a bright, modern clinic that was friendly and welcoming for her clients. In keeping with the character of the neighborhood, the space was designed with polished concrete floors, exposed ductwork, and concrete structure. Raw metal details were paired with natural wood surfaces and bright warm colors.

## VETERINARY CLINIC

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| <b>Code</b>                  | <b>Division Name</b>          | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-------------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>       | <b>1.69</b>   | <b>3.62</b>     | <b>9,258</b>     |
|                              | Water Based Fire Suppress Sys | 1.69          | 3.62            | 9,258            |
| <b>22</b>                    | <b>Plumbing</b>               | <b>11.75</b>  | <b>25.22</b>    | <b>64,452</b>    |
|                              | Plumbing                      | 11.75         | 25.22           | 64,452           |
| <b>23</b>                    | <b>HVAC</b>                   | <b>8.00</b>   | <b>17.16</b>    | <b>43,863</b>    |
|                              | HVAC                          | 8.00          | 17.16           | 43,863           |
| <b>26</b>                    | <b>Electrical</b>             | <b>13.56</b>  | <b>29.09</b>    | <b>74,345</b>    |
|                              | Electrical                    | 13.56         | 29.09           | 74,345           |
| <b>Total M &amp; E Costs</b> |                               | <b>35.00</b>  | <b>75.11</b>    | <b>191,919</b>   |
| <b>Total Building Costs</b>  |                               | <b>100.00</b> | <b>214.63</b>   | <b>548,404</b>   |

## AQUARIUM

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### FILE 54



The 14,550-square-foot building houses a 75,590-gallon tank with water depths varying from five to twelve feet and features both above ground and underwater viewing areas. A hand-crafted rocky shoreline, air temp at a chilly 45 degrees, and falling snow emulate the Antarctic conditions. The entire exhibit processes light from day to night and uses seasonal lighting cycles to help regulate the penguins' hormonal balancing and breeding functions.

As visitors follow the exhibit's circulation pathway they encounter multiple, interactive educational activities. The first, a replica of a research vessel, creates the feeling of being on an ocean-going ship. Videos of the ship's bow cutting through the ocean reinforces the impression of being at sea. Interactive touch screens inside the vessel guide the visitor in learning about the different penguin species found in the southern hemisphere and the environmental factors that impact them. Among the interactive educational components scattered throughout the exhibit are "Ice Breaker" games, allowing multiple, hands-on, learning experiences, and a "selfie" station for photos with the penguins.

The underwater viewing room, the Ice Cave, is where visitors can step into a 10-foot-high view bubble that allows them to step into the exhibit and be surrounded by water and swimming penguins. A ceiling lighting system fluidly changes colors to reflect the Aurora Australis, also known as the Southern Lights. Visitors needing refuge from the chilly climate can step onto the outdoor, multi-function deck, which provides an overlook of the zoo's park setting and nearby animal exhibits.

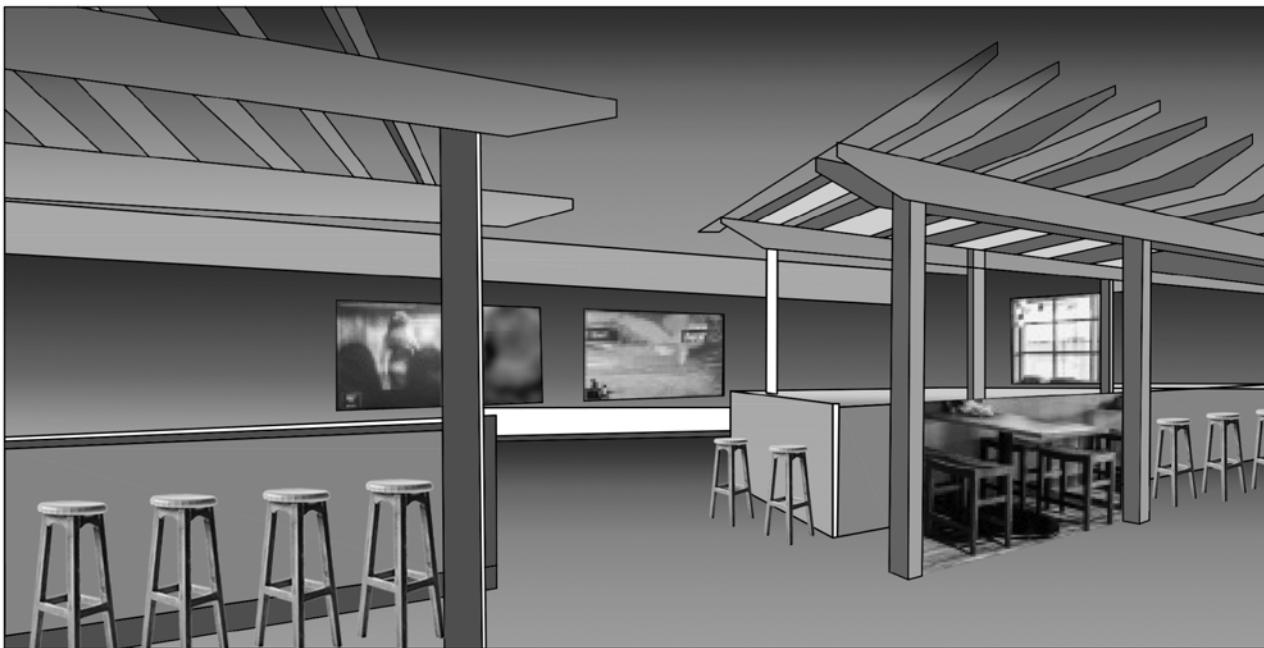
The design team's approach to this facility treated the exterior as an art installation with a stylistic iceberg-like facade while the interior imitates the Antarctic environment. Designed to focus on the well-being of the animals and to encourage natural behaviors, the exhibit features a variety of high and low rock outcroppings for enrichment activities and nooks for resting or nesting. Support space for the keepers is organized for ease and safety of access to the animals, with areas for health care, feeding prep, and quarantine. The life support system cycles water through sand filters with a water turn-over rate every 30-60 minutes.

## AQUARIUM

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| <b>Code</b>                  | <b>Division Name</b>        | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-----------------------------|---------------|-----------------|-------------------|
| 11                           | <b>Equipment</b>            | <b>0.55</b>   | <b>7.30</b>     | <b>120,539</b>    |
|                              | Equipment & Appliances      | 0.55          | 7.30            | 120,539           |
| 15                           | <b>Mechanical</b>           | <b>19.32</b>  | <b>258.02</b>   | <b>4,260,448</b>  |
|                              | Fire Suppression            | 0.45          | 5.98            | 98,794            |
|                              | Bond                        | 0.26          | 3.49            | 57,701            |
|                              | Mobilization                | 0.11          | 1.47            | 24,381            |
|                              | Sanitary Sewer UG           | 0.17          | 2.27            | 37,384            |
|                              | Sanitary Sewer AG           | 0.14          | 1.87            | 30,883            |
|                              | Domestic Water              | 0.33          | 4.43            | 73,143            |
|                              | Natural Gas Line            | 0.03          | 0.45            | 7,314             |
|                              | Plumbing Fixtures           | 0.66          | 8.86            | 146,286           |
|                              | Chilled Water Pipe & Equip  | 3.89          | 51.98           | 858,209           |
|                              | Life Support Sys            | 7.87          | 105.04          | 1,734,299         |
|                              | Duct Rough In               | 0.74          | 9.84            | 162,540           |
|                              | HVAC Equip                  | 1.86          | 24.81           | 409,600           |
|                              | HVAC Trim Out               | 0.17          | 2.27            | 37,384            |
|                              | HVAC Pipe & Ducts           | 0.48          | 6.40            | 105,651           |
|                              | Mechanical Controls         | 0.67          | 8.96            | 147,912           |
|                              | Test & Balance              | 0.07          | 0.88            | 14,629            |
|                              | Commun Duct Bank            | 0.44          | 5.89            | 97,121            |
|                              | Chilled Water               | 0.12          | 1.56            | 25,757            |
|                              | Wk Mech Sys Function        | 0.28          | 3.75            | 61,953            |
|                              | Correct T & B Chilled Water | 0.25          | 3.29            | 54,356            |
|                              | Chilled Water Piping        | 0.34          | 4.56            | 75,150            |
| 16                           | <b>Electrical</b>           | <b>7.12</b>   | <b>95.03</b>    | <b>1,569,153</b>  |
|                              | Mobilization                | 0.11          | 1.42            | 23,511            |
|                              | Demo                        | 0.06          | 0.81            | 13,271            |
|                              | Site UG Rough In            | 1.23          | 16.40           | 270,642           |
|                              | Branch Wire                 | 0.13          | 1.66            | 27,576            |
|                              | Feeder Wire                 | 0.29          | 3.88            | 64,134            |
|                              | Gear Interior               | 0.35          | 4.65            | 76,792            |
|                              | Safety Switches             | 0.02          | 0.33            | 5,475             |
|                              | Generator                   | 1.52          | 20.35           | 336,018           |
|                              | Trim Devices                | 0.11          | 1.54            | 25,283            |
|                              | Fixtures                    | 2.37          | 31.67           | 522,843           |
|                              | Fire Alarm Devices          | 0.26          | 3.46            | 57,120            |
|                              | Testing                     | 0.11          | 1.45            | 23,950            |
|                              | Add Light Fixture           | 0.34          | 4.49            | 74,188            |
|                              | Circuit Feed                | 0.01          | 0.13            | 2,172             |
|                              | Exist Conduit Inspection    | 0.02          | 0.20            | 3,401             |
|                              | Electrical Work             | 0.19          | 2.59            | 42,778            |
| <b>Total M &amp; E Costs</b> |                             | <b>26.99</b>  | <b>360.35</b>   | <b>5,950,140</b>  |
| <b>Total Building Costs</b>  |                             | <b>100.00</b> | <b>1,335.28</b> | <b>22,048,202</b> |

### FILE 55



The owners made a bold decision to expand the facility by 11,305 square feet, to attract a wider range of customers and lead to a completely renovated and expanded facility, which includes an enlarged retail area and club repair, along with a restaurant, bar, and state-of-the-art kitchen.

5 Under Golf Center offers four suites that feature large screens that can simulate golf courses, baseball pitching, hockey, and other games. Guests can compete against each other in virtual games from the comfort of the lounge, with service from the bar and full-service restaurant. Outside, a new two-level tee box overlooks the new driving range, which can help players track their shots, get feedback and play virtual courses against their friends. This renovation made 5 Under Golf Center much more than just a golf course; with indoor simulator games for high-tech gaming, a DJ Night for entertainment, and a bar and restaurant, it has something for everyone in the family.

Each simulation bay features a massive screen with a selection of virtual games, allowing you to hit a golf ball, throw a baseball, kick a soccer ball, and even attack zombies through a virtual screen! The game suites are surrounded by the lounge area with a full-service bar and restaurant. The indoor Topgolf Swing Suite simulators have a variety of different games, including over 140 golf courses you can choose from.

The outdoor driving range is two stories with 20 bays, powered by Toptracer Range technology. Serving the outdoor range area is patio dining, a music stage, restrooms, and an additional bar. The renovation also provided new parking, landscaping, and updated exterior signage. During renovation, the existing building was completely gutted and revamped. The existing driving range continued to remain open, and a mobile retail unit helped serve customer needs during construction.

5 Under Golf Center has brought the game of golf to all levels of players, and made it a family affair. This has enabled them to maintain their existing customer base as well as attract new customers who have never played golf before. The renovation has helped feed this growth with a state-of-the-art bar and kitchen that offers a wide variety of menus for the whole family.

## GOLF CENTER

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| <b>Code</b>                  | <b>Division Name</b>                             | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|--|---------------|-----------------|------------------|
| <b>07</b>                    | <b>Thermal and Moisture Protection</b>           | <b>0.04</b>   | <b>0.22</b>     | <b>2,388</b>     |
|                              | Roof Curbs at Kitchen Exhaust Fans               | 0.04          | 0.22            | 2,388            |
| <b>10</b>                    | <b>Specialties</b>                               | <b>0.27</b>   | <b>1.32</b>     | <b>14,931</b>    |
|                              | Toilet Accessories Fire Extinguishers Cabinets   | 0.27          | 1.32            | 14,931           |
| <b>13</b>                    | <b>Special Construction</b>                      | <b>6.51</b>   | <b>32.00</b>    | <b>361,741</b>   |
|                              | Restroom Addition                                | 6.51          | 32.00           | 361,741          |
| <b>21</b>                    | <b>Fire Suppression</b>                          | <b>1.16</b>   | <b>5.68</b>     | <b>64,317</b>    |
|                              | Fire Protection                                  | 1.16          | 5.68            | 64,317           |
| <b>22</b>                    | <b>Plumbing</b>                                  | <b>4.63</b>   | <b>22.76</b>    | <b>257,249</b>   |
|                              | Plumbing & Site Utilities                        | 4.56          | 22.44           | 253,660          |
|                              | Add Sink to Club Repair Room                     | 0.06          | 0.32            | 3,589            |
| <b>23</b>                    | <b>HVAC</b>                                      | <b>8.11</b>   | <b>39.87</b>    | <b>450,751</b>   |
|                              | HVAC   | 8.11          | 39.87           | 450,751          |
| <b>26</b>                    | <b>Electrical</b>                                | <b>9.29</b>   | <b>45.67</b>    | <b>516,253</b>   |
|                              | Electrical                                       | 6.74          | 33.16           | 374,998          |
|                              | Relocation of Electrical Service                 | 1.01          | 4.98            | 56,334           |
|                              | Relocate Existing Equipment                      | 0.03          | 0.13            | 1,449            |
|                              | Kitchen Fryer Power Requirements                 | 0.07          | 0.32            | 3,653            |
|                              | Glycol Unit Rough In                             | 0.04          | 0.19            | 2,147            |
|                              | New TV Wall Electrical                           | 0.06          | 0.31            | 3,447            |
|                              | Generator  | 0.09          | 0.44            | 4,947            |
|                              | Electrical Fixture Code Issue                    | 0.06          | 0.31            | 3,421            |
|                              | Electrical for Added Kitchen Equipment           | 0.05          | 0.26            | 2,949            |
|                              | Added Circuit for Nitrogen Generator             | 0.02          | 0.10            | 1209.6           |
|                              | Credit for Itex's Portion of Generator Cost      | -0.07         | -0.33           | (3,822)          |
|                              | Retail Lighting                                  | 0.97          | 4.79            | 54,100           |
|                              | Owner Requested Electrical Additions             | 0.06          | 0.31            | 3,535            |
|                              | Cost for Point of Sale & Cooler Rough In         | 0.14          | 0.69            | 7,885            |
| <b>27</b>                    | <b>Communications</b>                            | <b>5.21</b>   | <b>25.64</b>    | <b>289,798</b>   |
|                              | Audio Visual Camera & Data Cabling               | 2.97          | 14.60           | 165,068          |
|                              | AV Package                                       | 1.38          | 6.81            | 76,910           |
|                              | Camera & Data Cabling                            | 0.13          | 0.61            | 6,961            |
|                              | Change Order Audio Visual Cameras & Data Cabling | 0.73          | 3.61            | 40,861           |
| <b>28</b>                    | <b>Electronic Safety and Security</b>            | <b>0.25</b>   | <b>1.25</b>     | <b>14,148</b>    |
|                              | Fire Alarm                                       | 0.22          | 1.09            | 12,302           |
|                              | Security System                                  | 0.03          | 0.17            | 1,846            |
| <b>Total M &amp; E Costs</b> |  | <b>34.75</b>  | <b>170.85</b>   | <b>1,931,404</b> |
| <b>Total Building Costs</b>  |  | <b>100.00</b> | <b>491.80</b>   | <b>5,559,785</b> |

### FILE 56



Abandoned and vacant for years, the Old Albuquerque High School campus had become an eyesore, impeding the redevelopment of downtown Albuquerque. The City of Albuquerque selected developer Paradigm and architect Dekker-Perich-Sabatini as the master developer of this and adjacent properties. Contractor Richardson & Richardson, Inc. was brought on board shortly after.

Developer Rob Dickson is a "New Urbanist," so all projects were designed with these principles in mind. The first project was the historic renovation of "Old Main," the original structure, and the classroom building into loft apartments. Subsequent projects included the complete re-building of the campus into a city park and four new loft condo buildings on the surrounding properties.

The final project was the renovation of the gym into lofts. This project was designed to LEED® standards to be energy-efficient while retaining the historic character of the building. Currently, the project is undergoing LEED certification. The project proceeded in two phases, the first to create a clean, sealed shell condition with new insulated windows, and the second to install new floor levels in the gymnasium (there are now three levels) and additional floor space on the wings. There are a total of 54 loft units in the building.

Phase I of the Gym Lofts included cutting and removal of several structural slabs and required structural concrete for the new openings, miscellaneous interior demolition, remediation of asbestos and bio products (from the resident pigeon population), exterior cleaning, installation of R-30 low albedo roof system, replacement of the old cast gypsum roof deck system with steel deck, replacement of old steel casement windows with new historically-accurate and insulated Low-E units, removal and restoration of all the existing wood windows using low-E insulated glass, and renovation of all exterior entries to original configuration. New wood windows were cut into the lower part of the gymnasium and a reinforced shotcrete seismic wall was installed.

Phase II was the actual interior construction of the lofts. A new seismic structural system composed of structural steel and Trus Joists® was installed. All interior partitions are drywall and were tested for sound transmission. Finishes include refinished (existing) maple gym floors, sealed concrete, and new bamboo and Forbo flooring. The mechanical system uses high-efficiency water source heat pumps at each unit and a control system to monitor and control water flow, optimizing the use of pumps.

## LOFTS

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.94</b>   | <b>4.88</b>     | <b>331,598</b>    |
|                              | Phase II Fire Protection              | 1.94          | 4.88            | 331,597           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>9.76</b>   | <b>24.56</b>    | <b>1,669,787</b>  |
|                              | Phase I Mech-8" Lines to Cool Tower   | 0.37          | 0.93            | 63,297            |
|                              | Phase II Plumbing                     | 9.39          | 23.62           | 1,606,490         |
| <b>23</b>                    | <b>HVAC</b>                           | <b>3.76</b>   | <b>9.46</b>     | <b>642,963</b>    |
|                              | Phase II Heating & Cooling            | 3.76          | 9.46            | 642,963           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>8.76</b>   | <b>22.03</b>    | <b>1,498,158</b>  |
|                              | Phase I Electrical, Temporary         | 0.09          | 0.23            | 14,967            |
|                              | Phase II Electrical                   | 8.67          | 21.81           | 1,483,192         |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.16</b>   | <b>2.93</b>     | <b>198,935</b>    |
|                              | Phase II Security & Access            | 1.16          | 2.93            | 198,935           |
| <b>Total M &amp; E Costs</b> |                                       | <b>25.38</b>  | <b>63.85</b>    | <b>4,341,441</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>256.23</b>   | <b>17,427,108</b> |

### FILE 57



Krista Atkins Nutter and her husband Kenneth have built a super-insulated, energy-efficient, passive-solar, solar-electric home with solar hot water heating and a rainwater catchment system to provide water for toilet-flushing, clothes-washing, and outdoor uses. The home is designed for the local climate, and has achieved an Energy Star® rating of 5+ Stars, a Cincinnati Sustainability Award and an Excellence in Design Award Runner-Up selection in *Environmental Design + Construction Magazine*. One of the main goals of the home is to serve as an educational model for the community. The Nutters have given seminars on the Nutter Green Home to various groups, including students of all ages, the US EPA, the NeoCon World's Trade Fair in Chicago, and Green Energy Ohio.

The site for the project is a suburban infill lot with surrounding homes 25 years of age. The site was selected for its unobstructed southern exposure and close proximity to services such as retail, churches, healthcare, schools, etc. The home is a 2,300-square-foot modern-industrial, environmentally-sensitive dwelling utilizing strategies such as an insulated concrete form foundation, spray foam insulation, value engineered framing, suspended concrete floors, environmentally-sensitive materials such as recycled glass counter tops and bamboo stair treads, water-conserving low flow faucets and dual flush toilets, two high-efficiency heat pumps for back up heating and cooling, a heat recovery ventilator to supply the home with fresh air, and a 4.4 kW photovoltaic roof-mounted array. The exterior of the home features recyclable Galvalume and fiber composite siding. All concrete used in the project utilized 20% fly-ash.

The home with its grid-tied solar PV system, installed in March 2007, recorded its first positive electric bill in Aug./Sept. 2007 (which was quite a hot month in Cincinnati where temperatures consistently reached more than 90 degrees Fahrenheit). With both heat pump condensing units running and the thermostats set to 74-degrees, the electric bill from mid-August to mid-September was \$8. All bills prior to that were credits ranging from \$40 to \$60.

Superior indoor air quality is achieved through zero-VOC finishes, low or no-formaldehyde construction products, a high-efficiency electronic air filtration system, a heat recovery ventilation system, and by sealing all metal ductwork with mastic.

The home was built for \$100 per square foot, excluding the cost of the solar PV system. A grant from the Ohio Department of Development was awarded to the owners to help offset the cost of the PV and solar hot water heating systems.

## GREEN HOME

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>22</b>                    | <b>Plumbing</b>                       | <b>6.62</b>   | <b>12.26</b>    | <b>28,031</b>    |
|                              | Piping & Pumps                        | 1.01          | 1.87            | 4,283            |
|                              | Equipment                             | 4.41          | 8.17            | 18,687           |
|                              | Fixtures                              | 1.20          | 2.21            | 5,061            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>3.17</b>   | <b>5.88</b>     | <b>13,432</b>    |
|                              | Facility Fuel Systems                 | 0.37          | 0.68            | 1,556            |
|                              | Central HVAC Equipment                | 2.80          | 5.18            | 11,873           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>2.77</b>   | <b>5.12</b>     | <b>11,726</b>    |
|                              | Medium Voltage Distribution           | 1.93          | 3.58            | 8,177            |
|                              | Lighting                              | 0.84          | 1.55            | 3,551            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.55</b>   | <b>1.02</b>     | <b>2,336</b>     |
|                              | Detection & Alarm                     | 0.55          | 1.02            | 2,336            |
| <b>48</b>                    | <b>Electrical power Generation</b>    | <b>16.90</b>  | <b>31.27</b>    | <b>71,570</b>    |
|                              | Electrical Power Generation           | 16.90         | 31.27           | 71,571           |
| <b>Total M &amp; E Costs</b> |                                       | <b>30.01</b>  | <b>55.53</b>    | <b>127,095</b>   |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>188.45</b>   | <b>431,338</b>   |

**FILE 58**

This 208,056-square-foot mixed-use redevelopment project includes a parking structure, townhouses, high-rise apartments and street level retail/dining spaces. This redevelopment of nearly a half city-block coincided with the reconstruction and opening of a main street between two major city arteries closed for over twenty years, stifling flow of traffic through the city and adding to congestion.

Though virtually all of the interior finishes had been destroyed by its abandonment and years of water damage, the basic structure and exterior ornamental finishes were able to be restored. Portions of adjacent structures and other buildings on the site were completely demolished to make way for the parking garage and additions to the Sage-Allen Building.

A 300-car below grade parking structure was built using a precast filigree system. The parking structure supports the structural deck for the townhouses built on the east side of the site. The townhouses can accommodate 168 students and business interns associated with the University of Hartford, Trinity College and local corporations.

The varied uses, historic building, multiple code requirements, geotechnical issues, and zero-setback conditions offered several challenges for the design and construction team. For instance, in order to maximize the parking capacity but minimize the depth of the excavation into bedrock, the team selected the filigree/cast-in-place system to keep the floor-to-floor height as low as possible. The heating and cooling systems for the apartments incorporated a valance system combined with an outdoor make-up unit and a heat recovery wheel while the townhouses are served by packaged rooftop units. In both cases, the systems provide for energy efficiency while preserving the interior for living space instead of mechanical closets and chases. The parking garage has its own stand alone VAV system providing a once-through air supply to maintain safe air quality.

Some of the original Sage-Allen Building features like ornamental columns and handrails were restored and brought up to current code requirements. But even these simple modifications presented challenges for the team. The columns chosen for restoration needed to be fire protected so a 70 mil intumescent paint system was selected. The handrails, while attractive, needed to have their height modified and the actual rails modified to meet code once the lead paint was abated.

As construction progressed, several stages of environmental clean-up were undertaken to remove mold, asbestos, contaminated soils, and lead paint. All the work was done in a manner to protect workers and the public from exposure. Fortunately the team recognized the potential for environmental issues and had commissioned a thorough site study enabling them to build these activities into the project's master schedule.

## MIXED-USE, RESIDENTIAL/RETAIL

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| <b>Code</b>                  | <b>Division Name</b>        | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-----------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>     | <b>2.63</b>   | <b>7.76</b>     | <b>1,615,325</b>  |
|                              | Dry Wet Suppression System  | 2.63          | 7.76            | 1,615,325         |
| <b>22</b>                    | <b>Plumbing</b>             | <b>6.13</b>   | <b>18.11</b>    | <b>3,769,297</b>  |
|                              | Plumbing & Hot Water        | 6.13          | 18.11           | 3,769,297         |
| <b>23</b>                    | <b>HVAC</b>                 | <b>9.34</b>   | <b>27.62</b>    | <b>5,745,262</b>  |
|                              | Insulation                  | 0.21          | 0.63            | 130,126           |
|                              | Supply & Return Ductwork    | 6.17          | 18.24           | 3,796,735         |
|                              | Central Air                 | 2.96          | 8.74            | 1,818,404         |
| <b>26</b>                    | <b>Electrical</b>           | <b>7.42</b>   | <b>21.95</b>    | <b>4,567,205</b>  |
|                              | Main Service Panel & Meters | 7.13          | 21.11           | 4,388,806         |
|                              | Cable & Telephone           | 0.21          | 0.63            | 130,126           |
|                              | Security                    | 0.08          | 0.23            | 48,273            |
| <b>Total M &amp; E Costs</b> |                             | <b>25.52</b>  | <b>75.43</b>    | <b>15,697,088</b> |
| <b>Total Building Costs</b>  |                             | <b>100.00</b> | <b>301.18</b>   | <b>62,665,650</b> |

## MIXED-USE RESIDENTIAL

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### FILE 59



The 7th Street Mixed-Use Project in the Shaw neighborhood of Northwest Washington, D.C. features 12 assisted living units with common spaces and 20 apartments, all surrounding an inviting landscaped courtyard. Situated near Metro and bus lines as well as shopping and night life, this building makes the most of its urban setting. By incorporating retail space along 7th Street and accommodating a variety of tenants from assisted living residents to families with children, it contributes to the vibrant diversity of the city.

The floors differ in size with the first floor just under 9,900 square feet, the second floor 10,200 square feet, and the third, fourth, and fifth floors over 9,900 square feet each. The facility has a total of 49,900 square feet. The exterior looks sleek and modern with Trespa Meteon® panels in a red hue and large open areas of glazing.

The assisted living units are located on the first and second floors with views of the courtyard and access to private patios. Although the units are equipped with modest kitchens, the residents take the majority of their meals in the common space on the second floor. The common space is equipped with a full service kitchen as well as a spacious common space facing 7th Street to the west and the courtyard to the east. Residents can also visit the large adjacent terrace overlooking the courtyard. The facility has one elevator.

On the third, fourth, and fifth floors are apartments ranging in size from studios to three bedrooms. All units are spacious and have floor-to-ceiling windows with views of the city and the courtyard. The goal was to create sustainable, efficient, and affordable housing that would provide its inhabitants with comfort, light, and quality.

## MIXED-USE RESIDENTIAL

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| <b>Code</b>                  | <b>Division Name</b>              | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|-----------------------------------|---------------|-----------------|-------------------|
| <b>10</b>                    | <b>Specialties</b>                | <b>0.21</b>   | <b>0.83</b>     | <b>41,162</b>     |
|                              | Fire Extinguishers                | 0.02          | 0.10            | 4,375             |
|                              | Toilet & Bath Accessories         | 0.19          | 0.74            | 36,786            |
| <b>11</b>                    | <b>Equipment</b>                  | <b>1.18</b>   | <b>4.61</b>     | <b>230,208</b>    |
|                              | Appliances                        | 1.18          | 4.61            | 230,208           |
| <b>12</b>                    | <b>Furnishings</b>                | <b>1.06</b>   | <b>4.16</b>     | <b>207,238</b>    |
|                              | Cabinets & Counters Material      | 1.06          | 4.16            | 207,238           |
| <b>14</b>                    | <b>Conveying Systems</b>          | <b>2.46</b>   | <b>9.61</b>     | <b>480,433</b>    |
|                              | Elevators                         | 2.46          | 9.61            | 480,433           |
| <b>21</b>                    | <b>Fire Suppression</b>           | <b>2.33</b>   | <b>9.13</b>     | <b>454,657</b>    |
|                              | Shop Drawings Bond                | 0.58          | 2.28            | 113,670           |
|                              | Rough Ins                         | 1.67          | 6.53            | 325,783           |
|                              | Trims                             | 0.08          | 0.31            | 15,205            |
| <b>22</b>                    | <b>Plumbing</b>                   | <b>4.81</b>   | <b>18.83</b>    | <b>939,242</b>    |
|                              | Permits                           | 0.24          | 0.95            | 46,964            |
|                              | Mobilization & Bond               | 0.24          | 0.95            | 46,964            |
|                              | Groundworks                       | 0.96          | 3.76            | 187,858           |
|                              | Rough In                          | 1.76          | 6.89            | 343,342           |
|                              | Fixtures                          | 1.61          | 6.28            | 314,117           |
| <b>23</b>                    | <b>HVAC</b>                       | <b>4.41</b>   | <b>17.29</b>    | <b>866,516</b>    |
|                              | Bonds & Submittals                | 0.22          | 0.87            | 43,127            |
|                              | Mobilization                      | 0.22          | 0.87            | 47,130            |
|                              | Rough Ins                         | 1.76          | 6.90            | 344,055           |
|                              | Trims                             | 0.22          | 0.87            | 43,127            |
|                              | Equipment                         | 1.99          | 7.80            | 389,079           |
| <b>26</b>                    | <b>Electrical</b>                 | <b>6.84</b>   | <b>26.82</b>    | <b>1,337,023</b>  |
|                              | Mobilization & Bond               | 0.17          | 0.65            | 33,426            |
|                              | Undergrounds                      | 0.52          | 2.06            | 102,513           |
|                              | Switch Gear & Distribution Equip. | 1.14          | 4.48            | 223,295           |
|                              | Permit                            | 0.17          | 0.65            | 33,426            |
|                              | Temporary                         | 0.13          | 0.49            | 24,524            |
|                              | Rough Ins                         | 2.37          | 9.28            | 463,450           |
|                              | Fixtures                          | 2.34          | 9.14            | 456,389           |
| <b>Total M &amp; E Costs</b> |                                   | <b>23.29</b>  | <b>91.25</b>    | <b>4,556,477</b>  |
| <b>Total Building Costs</b>  |                                   | <b>100.00</b> | <b>391.73</b>   | <b>19,543,770</b> |

### FILE 60



The Kenmore Senior Apartments is a 90,000-square-foot, eight-story building that provides seniors with affordable housing of equal or better quality than privately owned, market-rate housing in the area. The new, 100-unit building is the penultimate senior building to be constructed under the Chicago Housing Authority's (CHA) "Plan for Transformation" – the largest renovation and redevelopment of public housing in the history of the United States of America. The CHA engaged Holabird & Root to renovate the once vacant building into a thriving home for low-income seniors. The building was transformed into a high-end facility. This was accomplished by relocating all of the core components, like elevators and all circulation. As a result, the building is more efficient at the interior but respects the existing location of all exterior openings and windows.

A major component of the project is sustainable design. The building is 14% more efficient than a code-compliant building, which is due, in part, to the use of high-efficiency lighting and plumbing strategies. Materials with low Volatile Organic Compounds (VOCs) and high-recycled content were selected for the interiors. Highly heat-reflective materials on the exterior reduce heat island effect. In addition, a minimum of 75% of demolition materials was diverted from the landfill. On-site stormwater management was provided by reducing runoff with a 7,000-square-foot green roof and utilizing porous pavement and planter boxes in the courtyard. The retrofitted courtyards reduce water pollution and provide residents with a respite from urban living.

To comply with current codes and Americans with Disabilities Act (ADA) requirements, the renovation includes the addition of ramps and accessible courtyards; 20% of all units are ADA, as well as all public spaces. Life safety features include code-compliant stairs, elevators, entryways, and a sophisticated fire alarm suitable for the hearing impaired.

Each floor level uses different colors to simplify way-finding for seniors. Each of the 100 single-bedroom apartments contains large operable windows to give ample daylight and fresh air to the space. A library with a fireplace, fitness center, and a community room with audio/visual equipment enhances the programming for the tenants.

The building was recently awarded LEED® Platinum certification, a first in Chicago public housing and one of very few in the nation.

## SENIOR HOUSING

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>14</b>                    | <b>Conveying Systems</b>              | <b>1.90</b>   | <b>6.57</b>     | <b>595,517</b>    |
|                              | Elevators                             | 1.82          | 6.27            | 568,852           |
|                              | Chutes                                | 0.09          | 0.31            | 26,665            |
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.50</b>   | <b>5.21</b>     | <b>471,081</b>    |
|                              | Water-Based Fire Suppression          | 1.50          | 5.21            | 471,081           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>7.07</b>   | <b>24.45</b>    | <b>2,213,192</b>  |
|                              | Piping & Pumps                        | 6.42          | 22.20           | 2,008,760         |
|                              | Equipment                             | 0.20          | 0.70            | 62,218            |
|                              | Fixtures                              | 0.45          | 1.57            | 142,213           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>17.35</b>  | <b>60.01</b>    | <b>5,432,541</b>  |
|                              | Piping & Pumps                        | 15.93         | 55.10           | 4,988,125         |
|                              | Central HVAC Equipment                | 1.42          | 4.90            | 444,416           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>10.46</b>  | <b>36.17</b>    | <b>3,274,458</b>  |
|                              | Medium-Voltage Distribution           | 8.87          | 30.67           | 2,776,712         |
|                              | Lighting                              | 1.59          | 5.49            | 497,746           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.41</b>   | <b>1.45</b>     | <b>129,769</b>    |
|                              | Data                                  | 0.41          | 1.45            | 129,769           |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.50</b>   | <b>5.18</b>     | <b>469,303</b>    |
|                              | Surveillance                          | 1.02          | 3.55            | 319,980           |
|                              | Detection & Alarm                     | 0.48          | 1.65            | 149,324           |
| <b>48</b>                    | <b>Electrical power Generation</b>    | <b>0.91</b>   | <b>3.15</b>     | <b>284,426</b>    |
|                              | Power Generation Equipment            | 0.91          | 3.15            | 284,426           |
| <b>Total M &amp; E Costs</b> |                                       | <b>41.11</b>  | <b>142.18</b>   | <b>12,870,287</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>345.80</b>   | <b>31,305,636</b> |

## GUEST HOUSE RESIDENCE

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### FILE 61



Guests truly experience a home away from home when they visit the Halls in Ahwatukee, Arizona. Tri-Lite Builders, Inc., were commissioned to design and build a freestanding guest house that would have all the amenities of home, as well as function as a retreat for many hobbies. The contractor succeeded by creating a stylish guest house that combined beauty, comfort, and versatility.

The first challenge the contractor faced was to create a design that would provide the Halls with a spacious guest house that would not obstruct their dramatic view of South Mountain and would have a minimal impact on the striking natural landscaping in their backyard. In order to retain as much of the original landscaping as possible, Tri-Lite Builders designed a full basement below the 940-square-foot cottage, creating 1,913 square feet of livable space.

Floor to ceiling, the guest house has the feeling of a cozy cabin. The rough-hewn tongue and groove planks in the ceiling are stained to match the alder wood used throughout the building. The diagonal, dark green and off-black tile gives the appearance of spaciousness, and the rough finish provides a safe and easy pathway throughout the cottage. On one side of the guest house, next to the wet bar, is a rustic, floor-to-ceiling, Arizona-quarried, sandstone fireplace.

Guests are treated to all the modern conveniences with a full functioning kitchenette, convenient utility room, bathroom with full, walk-in shower, full-sized basement, and fully air-conditioned garage.

In the guest house, a 5- by 6-foot double-pane picture window, dual rectangular windows, and two skylights provide ample light. The air conditioning system supports both the main floor and the basement, and provides a natural air passage, that brings the cooler air from the basement into the house. This is an added advantage in a state where 100 plus degree temperatures are the norm four months of the year.

Additional amenities include a sprinkler system and special wiring for the computer and audiovisual equipment. The entrance to the basement is only accessible through the garage, which enables the owner to enjoy the garage and basement without disturbing guests in the main livable area upstairs.

At the owner's request, Tri-Lite Builders used a relatively new wall system the owners had seen at a home show. The foam block post and beam system is unique, super durable and energy efficient. The polysteel foam block with a concrete poured center serves as a triple barrier that is a great insulator, a superior sound block, and provides reduced air infiltration.

## GUEST HOUSE RESIDENCE

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|---------------------------------------|---------------|-----------------|------------------|
| <b>10</b>                    | <b>Specialties</b>                    | <b>0.45</b>   | <b>2.56</b>     | <b>4,893</b>     |
|                              | Fire Protection Specialties           | 0.11          | 0.61            | 1,180            |
|                              | Toilet & Bath Accessories             | 0.20          | 1.14            | 2,194            |
| <b>13</b>                    | <b>Special Construction</b>           | <b>0.80</b>   | <b>4.57</b>     | <b>8,758</b>     |
|                              | Fire Suppression & Supervisory System | 0.68          | 3.88            | 7,409            |
|                              | Special Security Construction         | 0.12          | 0.70            | 1,350            |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>3.63</b>   | <b>20.72</b>    | <b>39,639</b>    |
|                              | Plumbing                              | 3.63          | 20.72           | 39,639           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>5.47</b>   | <b>31.26</b>    | <b>59,795</b>    |
|                              | Air Distribution                      | 0.11          | 0.61            | 1,180            |
|                              | Controls                              | 0.06          | 0.37            | 676              |
|                              | HVAC                                  | 4.65          | 26.53           | 50,772           |
|                              | Heat Generation                       | 0.66          | 3.72            | 7,164            |
| <b>26</b>                    | <b>Electrical</b>                     | <b>6.01</b>   | <b>34.32</b>    | <b>65,638</b>    |
|                              | Basic Materials & Methods             | 5.54          | 31.63           | 60,492           |
|                              | Lighting                              | 0.22          | 1.28            | 2,446            |
|                              | Special Systems                       | 0.25          | 1.41            | 2,700            |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.46</b>   | <b>2.64</b>     | <b>5,061</b>     |
|                              | Communications                        | 0.46          | 2.64            | 5,061            |
| <b>Total M &amp; E Costs</b> |                                       | <b>15.57</b>  | <b>88.93</b>    | <b>170,134</b>   |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>570.94</b>   | <b>1,092,225</b> |

## BROADWAY LOFTS

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### FILE 62



Located 1.5 miles from downtown and the first new project in San Antonio's new River North District, this adaptive reuse project transformed the concrete superstructure of an abandoned housing project.

Occupying two city blocks, the four-story project includes 308-loft apartments and 15,000 square feet of retail/office space organized around five courtyards. 1221 Broadway was designed as an urban compound for living. All circulation is outdoors on single loaded cantilevered walkways linked by bridges over Avenue B and alleys to the five-story parking garage. The connection to the five courtyards and to the outdoors creates both a unique oasis and urban street presence.

Forty different unit types are available that range from a 450-square-foot studio loft, a 850-square-foot one bedroom loft to a 1,150-square-foot two bedroom loft. The average unit size is 700 square feet. The project was 100% leased within 1.5 months of completion.

The re-use of 21 relatively inflexible buildings consisting of poured-in-place concrete structure, walls, floor and ceiling posed a re-design challenge. The decision to retain the structure and the aerated autoclaved concrete unit kept tons of demolished material from the landfill, along with the construction resources being reused. The combination of the thermal lag due to the concrete mass, well sealed and insulated envelope and high performing windows all contribute to the energy efficiency and thermal comfort enjoyed by the tenants.

Full height living screens, as they mature, will provide some privacy and protect the apartment unit entries from low sun angles. New and existing trees occupy the five courtyards and provide shaded places for tenants to gather. Openings between buildings allow breezes to flow thru the courtyards. Three rainwater harvesting tanks store 38,000 gallons of water for landscape irrigation and fountains. Phase two of the project includes office/retail lease space on the ground level.

## BROADWAY LOFTS

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>10</b>                    | <b>Specialties</b>                    | <b>1.04</b>   | <b>2.19</b>     | <b>450,449</b>    |
|                              | Specialties Phase 1                   | 0.92          | 1.93            | 398,845           |
|                              | Fire Extinguishers                    | 0.02          | 0.03            | 7,250             |
|                              | Bath                                  | 0.02          | 0.05            | 8,888             |
| <b>11</b>                    | <b>Equipment</b>                      | <b>2.51</b>   | <b>5.29</b>     | <b>1,082,785</b>  |
|                              | Appliances Phase 1                    | 2.13          | 4.49            | 920,439           |
|                              | Residential Appliances                | 0.38          | 0.79            | 162,346           |
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>0.54</b>   | <b>1.13</b>     | <b>231,571</b>    |
|                              | Sprinkler Engineering                 | 0.07          | 0.14            | 28,069            |
|                              | Sprinkler Underground                 | 0.07          | 0.14            | 28,069            |
|                              | Sprinkler Material                    | 0.20          | 0.41            | 84,207            |
|                              | Sprinkler Labor                       | 0.21          | 0.45            | 91,224            |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>8.51</b>   | <b>17.91</b>    | <b>3,671,491</b>  |
|                              | Plumbing & Hot Water Phase 1          | 7.26          | 15.27           | 3,133,098         |
|                              | Undermount Sinks                      | 0.01          | 0.03            | 6,316             |
|                              | Rough In                              | 0.48          | 1.01            | 207,603           |
|                              | Topout                                | 0.48          | 1.01            | 207,603           |
|                              | Trim                                  | 0.24          | 0.51            | 103,808           |
|                              | Tub Repair                            | 0.00          | 0.00            | 1,368             |
|                              | Water Submetering                     | 0.03          | 0.05            | 11,697            |
| <b>23</b>                    | <b>HVAC</b>                           | <b>4.10</b>   | <b>8.61</b>     | <b>1,768,238</b>  |
|                              | Air Conditioning Phase 1              | 3.48          | 7.32            | 1,501,239         |
|                              | Rough In                              | 0.23          | 0.49            | 100,348           |
|                              | Air Handler Units                     | 0.12          | 0.24            | 50,290            |
|                              | Condensers                            | 0.19          | 0.40            | 81,402            |
|                              | Trim                                  | 0.08          | 0.18            | 34,957            |
| <b>26</b>                    | <b>Electrical</b>                     | <b>9.95</b>   | <b>20.94</b>    | <b>4,291,945</b>  |
|                              | Electrical Phase 1                    | 8.05          | 16.93           | 3,473,112         |
|                              | Service                               | 0.57          | 1.20            | 244,436           |
|                              | Rough In                              | 0.96          | 2.00            | 412,852           |
|                              | Trim                                  | 0.05          | 0.09            | 22,807            |
|                              | Lighting Fixtures                     | 0.25          | 0.52            | 107,941           |
|                              | Site Lighting                         | 0.07          | 0.15            | 30,794            |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.05</b>   | <b>0.09</b>     | <b>21,480</b>     |
|                              | Circuits                              | 0.05          | 0.09            | 21,480            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>0.16</b>   | <b>0.33</b>     | <b>67,203</b>     |
|                              | Security Systems                      | 0.05          | 0.09            | 20,820            |
|                              | Fire Alarm & Detection                | 0.11          | 0.22            | 46,383            |
| <b>Total M &amp; E Costs</b> |                                       | <b>23.31</b>  | <b>49.01</b>    | <b>10,051,927</b> |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>210.29</b>   | <b>43,138,779</b> |

## TOWNHOMES

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### FILE 63



The 5,335-square-foot S. Ferdinand Townhomes project involved the conceptual design, permitting, construction documentation, and administration of three new townhouses on a tight site behind two existing historic residences within the Columbia City Historical District of Seattle, Washington.

Each of the approximately 1744-square-foot townhouse units features an efficient floor layout, including three bedrooms, 2.5 baths and a laundry room, and is located over a private garage.

Care was given to making the units contextual with the surrounding neighborhood while also intentionally not looking "historical." The townhomes were also designed to not distract from the 100+-year-old homes that prominently face S. Ferdinand Street, and the designs went through extensive screening before being approved by the Landmarks Board.

The exteriors are finished with a low-maintenance rainscreen system consisting of cement fiber panels and vertical cedar siding. Units are accessed via a shared brick paver courtyard and feature welcoming entry steps, trellises, gardens, and rooftop decks.

Inside, tall windows with transoms and slot windows bring light deep into the units. The stepping and cantilevered building elements balance the need for light, variation, fire separation, and visual interest with limited space, and allow the owner/developers to achieve maximum value from their site.

Broderick Architects used Graphisoft's ArchiCAD BIM software from building concept to working drawings, and for extensive site modeling required for presentations to the Landmarks Preservation Board.

## TOWNHOMES

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| <b>Code</b>                  | <b>Division Name</b>              | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|------------------------------|-----------------------------------|---------------|-----------------|------------------|
| <b>21</b>                    | <b>Fire Suppression</b>           | <b>1.52</b>   | <b>5.20</b>     | <b>27,703</b>    |
|                              | Fire Sprinkler System             | 1.52          | 5.20            | 27,703           |
| <b>22</b>                    | <b>Plumbing</b>                   | <b>5.25</b>   | <b>18.00</b>    | <b>96,014</b>    |
|                              | Plumbing                          | 5.18          | 17.77           | 94,729           |
|                              | Plumbing Underslab Trenching      | 0.07          | 0.24            | 1,286            |
| <b>23</b>                    | <b>HVAC</b>                       | <b>0.08</b>   | <b>0.28</b>     | <b>1,484</b>     |
|                              | Dryer Vents & Wall Cap            | 0.02          | 0.06            | 296              |
|                              | Bathroom Fan Vents & Wall Cap     | 0.05          | 0.17            | 891              |
|                              | Range Hood Vents & Wall Cap       | 0.02          | 0.06            | 296              |
| <b>26</b>                    | <b>Electrical</b>                 | <b>7.82</b>   | <b>26.79</b>    | <b>142,939</b>   |
|                              | Electrical Complete               | 4.35          | 14.91           | 79,547           |
|                              | Lighting Allowance                | 1.28          | 4.39            | 23,448           |
|                              | Primary Power Svc                 | 1.53          | 5.25            | 27,986           |
|                              | Temp Power 30 Ft Pole             | 0.50          | 1.70            | 9,130            |
|                              | SCL Secondary Pwr Line Safe Cover | 0.15          | 0.52            | 2,828            |
| <b>Total M &amp; E Costs</b> |                                   | <b>14.67</b>  | <b>50.28</b>    | <b>268,140</b>   |
| <b>Total Building Costs</b>  |                                   | <b>100.00</b> | <b>342.69</b>   | <b>1,828,296</b> |

## SENIOR HOUSING

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### FILE 64



Building C, Academy Place at Houma, Louisiana, is a senior housing development that includes a new 56-unit, 47,000-square-foot, three-story multi-family housing development that is age restricted to seniors 62 and up. In addition (and separately on-site), is a complete renovation of the historic Houma Elementary School, which includes 47 apartments (costs not included with this project).

The development is immediately adjacent transit and commercial/retail. Sixty percent of the apartments are income restricted. Of the total 103 units, 94 units will be one-bedroom units and nine will be two-bedroom units.

The site design is scaled to the surrounding historic downtown and serves to transition from the commercial properties with their larger-scaled structures to the residential neighborhoods. This change in scale is accomplished through the planning of multiple smaller buildings on this site rather than a single, monolithic building.

The existing parking lot has been reconfigured for efficiency and is located behind the historic building's street entrances.

The new building is a wood-frame structure clad in a variation of Hardie cement board siding and wall panels, along with some brick veneer and wood slats. A dynamic approach was deployed in the composition and color scheme of the exterior façade to provide each of the units with a unique identity.

Each unit has its own exterior balcony and it is in this aspect that the variation occurs. The roof is a thermoplastic polyolefin (TPO) single-ply reflective roofing membrane that contributes to the energy efficient performance.

Interior materials are modest and low maintenance. Each unit contains luxury vinyl tile (LVT) throughout, with carpet tile in the public corridors. Salvaged slate from the chalkboards of the original elementary school were repurposed for a system of indoor signage that allows residents to leave handwritten notes for their neighbors.

The development was certified with Enterprise Green Communities and Energy Star® 3.0. It incorporates many green building strategies, including: durable materials, Energy Star lighting and appliances, and energy-efficient building components. All of these contribute to lower costs for tenants on utilities.

## SENIOR HOUSING

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| <b>Code</b>                  | <b>Division Name</b>                  | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b>  |
|------------------------------|---------------------------------------|---------------|-----------------|-------------------|
| <b>21</b>                    | <b>Fire Suppression</b>               | <b>1.29</b>   | <b>3.02</b>     | <b>141,943</b>    |
|                              | Water Base Fire Suppress Sys          | 1.29          | 3.02            | 141,943           |
| <b>22</b>                    | <b>Plumbing</b>                       | <b>6.91</b>   | <b>16.15</b>    | <b>758,378</b>    |
|                              | Piping & Pumps                        | 4.32          | 10.07           | 473,249           |
|                              | Fixtures                              | 2.60          | 6.08            | 285,129           |
| <b>23</b>                    | <b>HVAC</b>                           | <b>8.39</b>   | <b>19.58</b>    | <b>919,767</b>    |
|                              | Piping & Pumps                        | 0.77          | 1.79            | 84,106            |
|                              | Air Distribution                      | 2.32          | 5.43            | 254,419           |
|                              | Central HVAC Equipment                | 5.30          | 12.39           | 581,242           |
| <b>26</b>                    | <b>Electrical</b>                     | <b>12.26</b>  | <b>28.65</b>    | <b>1,344,801</b>  |
|                              | Medium Voltage Distr                  | 8.60          | 20.08           | 942,976           |
|                              | Low Voltage Transmission              | 0.08          | 0.19            | 8,817             |
|                              | Lighting                              | 3.58          | 8.37            | 393,009           |
| <b>27</b>                    | <b>Communications</b>                 | <b>0.34</b>   | <b>0.79</b>     | <b>37,292</b>     |
|                              | Data                                  | 0.34          | 0.79            | 37,292            |
| <b>28</b>                    | <b>Electronic Safety and Security</b> | <b>1.33</b>   | <b>3.11</b>     | <b>146,291</b>    |
|                              | Access Control & Intrusion Det        | 0.10          | 0.24            | 11,464            |
|                              | Surveillance                          | 0.24          | 0.56            | 26,614            |
|                              | Detection & Alarm                     | 0.99          | 2.30            | 108,214           |
| <b>Total M &amp; E Costs</b> |                                       | <b>30.52</b>  | <b>71.33</b>    | <b>3,348,474</b>  |
| <b>Total Building Costs</b>  |                                       | <b>100.00</b> | <b>233.64</b>   | <b>10,967,428</b> |

### FILE 65



A home of light, energy, life, and magic inspired by the land, light, views toward Marin County's landmark, Mount Tamalpais, air movement, and surrounding trees — the Architect Fani Danadjieva Hansen, AIA, has created a spectacular place for enjoying living, working and playing.

The light and air movement enter everywhere. Steel framed windows link the indoors with the outdoors. Clerestory windows deliver light throughout the day, illuminating the space at little cost.

Decks and multiple terraces on all sides link the interior with exterior space. Entertaining or working with socially distanced seating can take place outdoors, so that guests can visit and feel safe.

The client's program, budget, the community needs, the site, ecology, approvals, sustainability, building materials, schedules, availability of funds, and contractors' demands were some of the components that required a great deal of creativity, design skills, and teamwork. While performing the roles of designer and construction manager simultaneously, Fani Danadjieva Hansen, AIA, interpreted the diverse demands in sketch formats, nurtured the ideas, and integrated the myriad ideas to create a single totality for mutual benefit.

The simplification of the design/build process helped produce seamless spaces, unique to the land and as economically as possible.

Throughout, there is a strong indoors-outdoors connection with the land, bringing light and fresh air that helps to increase the feeling of freedom. As sustainability was a guiding force, natural ventilation provides the interior space with a breeze, cultivating a deep connection with the land. The light brings attention to different elements at different times of the day.

The elegant color palette originates from the surrounding trees' foliage and their bark. Standing seam roofing and the exterior plaster finish harmonize with the natural landscape. The wood flooring throughout provides a calming and warm foundation for enjoyment.

With solid walls framing the views, living room, cooking area, dining room, fireplaces, and bedrooms link with the open outdoor sitting area, available for conversation and play. The master bedroom, bathroom, and sauna access the pool deck and spa, offering spectacular views.

## CUSTOM HOUSE

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| <b>Code</b>                 | <b>Division Name</b>         | <b>%</b>      | <b>S F Cost</b> | <b>Projected</b> |
|-----------------------------|------------------------------|---------------|-----------------|------------------|
| <b>11</b>                   | <b>Equipment</b>             | <b>3.41</b>   | <b>24.52</b>    | <b>124,836</b>   |
|                             | Equipment Install            | 1.43          | 10.24           | 52,157           |
|                             | Residential                  | 0.94          | 6.78            | 34,529           |
|                             | Stove & Hood                 | 1.04          | 7.49            | 38,149           |
| <b>12</b>                   | <b>Furnishings</b>           | <b>2.68</b>   | <b>19.23</b>    | <b>97,882</b>    |
|                             | Casework Install             | 1.69          | 12.13           | 61,774           |
|                             | Casework                     | 0.99          | 7.09            | 36,108           |
| <b>21</b>                   | <b>Fire Suppression</b>      | <b>0.56</b>   | <b>4.02</b>     | <b>20,480</b>    |
|                             | Water Based Fire Suppression | 0.56          | 4.02            | 20,480           |
| <b>22</b>                   | <b>Plumbing</b>              | <b>1.98</b>   | <b>14.21</b>    | <b>72,348</b>    |
|                             | Plumbing                     | 1.98          | 14.21           | 72,348           |
| <b>23</b>                   | <b>HVAC</b>                  | <b>6.30</b>   | <b>45.25</b>    | <b>230,378</b>   |
|                             | Air Distribution             | 2.14          | 15.39           | 78,358           |
|                             | Air Cleaning Devices         | 0.67          | 4.85            | 24,687           |
|                             | Central Cooling Devices      | 1.75          | 12.57           | 64,000           |
|                             | Gypcreat                     | 0.41          | 2.93            | 14,915           |
|                             | Radiant Heating              | 1.32          | 9.51            | 48,417           |
| <b>26</b>                   | <b>Electrical</b>            | <b>6.52</b>   | <b>46.84</b>    | <b>238,460</b>   |
|                             | Power & Communications       | 4.80          | 34.50           | 175,638          |
|                             | Fixtures                     | 0.78          | 5.61            | 28,540           |
|                             | Solar                        | 0.94          | 6.73            | 34,282           |
| <b>27</b>                   | <b>Communications</b>        | <b>0.70</b>   | <b>5.00</b>     | <b>25,484</b>    |
|                             | Communications               | 0.70          | 5.00            | 25,484           |
| <b>Total Building Costs</b> |                              | <b>22.15</b>  | <b>159.07</b>   | <b>809,868</b>   |
| <b>Total Building Costs</b> |                              | <b>100.00</b> | <b>718.50</b>   | <b>3,657,920</b> |



# **Part Two**

## **Unit-In-Place Costs**

- DIVISION 00 PROCUREMENT & CONTRACTING REQUIREMENTS
- DIVISION 01 GENERAL REQUIREMENTS
- DIVISION 02 EXISTING CONDITIONS
- DIVISION 03 CONCRETE
- DIVISION 04 MASONRY
- DIVISION 05 METALS
- DIVISION 06 WOOD, PLASTICS, AND COMPOSITES
- DIVISION 07 THERMAL AND MOISTURE PROTECTION
- DIVISION 08 OPENINGS
- DIVISION 09 FINISHES
- DIVISION 10 SPECIALTIES
- DIVISION 11 EQUIPMENT
- DIVISION 12 FURNISHINGS
- DIVISION 13 SPECIAL CONSTRUCTION
- DIVISION 14 CONVEYING EQUIPMENT
- DIVISION 21 FIRE SUPPRESSION
- DIVISION 22 PLUMBING
- DIVISION 23 HEATING, VENTILATING, AND AIR-COND. (HVAC)
- DIVISION 25 INTEGRATED AUTOMATION
- DIVISION 26 ELECTRICAL
- DIVISION 27 COMMUNICATIONS
- DIVISION 28 ELECTRONIC SAFETY AND SECURITY
- DIVISION 31 EARTHWORK
- DIVISION 32 EXTERIOR IMPROVEMENTS
- DIVISION 33 UTILITIES
- DIVISION 34 TRANSPORTATION
- DIVISION 35 WATERWAY AND MARINE CONSTRUCTION
- DIVISION 40 PROCESS INTEGRATION
- DIVISION 41 MATERIAL PROCESSING & HANDLING EQUIPMENT
- DIVISION 42 PROCESS HEATING, COOLING, & DRYING EQUIP.
- DIVISION 43 PROCESS GAS & LIQUID HANDLING, PURIFICATION, & STORAGE EQUIPMENT
- DIVISION 44 POLLUTION CONTROL EQUIPMENT
- DIVISION 45 INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT
- DIVISION 48 ELECTRICAL POWER GENERATION

## UNIT-IN-PLACE COSTS

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## DIVISION 01 GENERAL

|                             | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-----------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>01210.01 ALLOWANCES</b>  |             |                |                 |              |              |
| ALLOWANCES                  |             |                |                 |              |              |
| Overhead                    |             |                |                 |              |              |
| \$20,000 project            |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 15.00        |
| Average .....               | PCT .....   |                |                 |              | 20.00        |
| Maximum .....               | PCT .....   |                |                 |              | 40.00        |
| \$100,000 project           |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 12.00        |
| Average .....               | PCT .....   |                |                 |              | 15.00        |
| Maximum .....               | PCT .....   |                |                 |              | 25.00        |
| \$500,000 project           |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 10.00        |
| Average .....               | PCT .....   |                |                 |              | 12.00        |
| Maximum .....               | PCT .....   |                |                 |              | 20.00        |
| Profit                      |             |                |                 |              |              |
| \$20,000 project            |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 10.00        |
| Average .....               | PCT .....   |                |                 |              | 15.00        |
| Maximum .....               | PCT .....   |                |                 |              | 25.00        |
| \$100,000 project           |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 10.00        |
| Average .....               | PCT .....   |                |                 |              | 12.00        |
| Maximum .....               | PCT .....   |                |                 |              | 20.00        |
| \$500,000 project           |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 5.00         |
| Average .....               | PCT .....   |                |                 |              | 10.00        |
| Maximum .....               | PCT .....   |                |                 |              | 15.00        |
| Professional fees           |             |                |                 |              |              |
| Architectural               |             |                |                 |              |              |
| \$100,000 project           |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 5.00         |
| Average .....               | PCT .....   |                |                 |              | 10.00        |
| Maximum .....               | PCT .....   |                |                 |              | 20.00        |
| \$500,000 project           |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 5.00         |
| Average .....               | PCT .....   |                |                 |              | 8.00         |
| Maximum .....               | PCT .....   |                |                 |              | 12.00        |
| Structural engineering      |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 2.00         |
| Average .....               | PCT .....   |                |                 |              | 3.00         |
| Maximum .....               | PCT .....   |                |                 |              | 5.00         |
| Mechanical engineering      |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 4.00         |
| Average .....               | PCT .....   |                |                 |              | 5.00         |
| Maximum .....               | PCT .....   |                |                 |              | 15.00        |
| Taxes                       |             |                |                 |              |              |
| Sales tax                   |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 4.00         |
| Average .....               | PCT .....   |                |                 |              | 5.00         |
| Maximum .....               | PCT .....   |                |                 |              | 10.00        |
| Unemployment                |             |                |                 |              |              |
| Minimum .....               | PCT .....   |                |                 |              | 3.00         |
| Average .....               | PCT .....   |                |                 |              | 6.50         |
| Maximum .....               | PCT .....   |                |                 |              | 8.00         |
| Social security (FICA)      | .....       | PCT .....      |                 |              | 7.85         |
| <b>01311.30 FIELD STAFF</b> |             |                |                 |              |              |
| FIELD STAFF                 |             |                |                 |              |              |
| Superintendent              |             |                |                 |              |              |
| Minimum .....               | YEAR .....  |                |                 |              | 110,437.48   |
| Average .....               | YEAR .....  |                |                 |              | 138,065.93   |
| Maximum .....               | YEAR .....  |                |                 |              | 165,845.63   |
| Foreman                     |             |                |                 |              |              |
| Minimum .....               | YEAR .....  |                |                 |              | 73,403.90    |
| Average .....               | YEAR .....  |                |                 |              | 117,390.73   |

## DIVISION 01 GENERAL

|                                     | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>01311.30 FIELD STAFF (Cont.)</b> |             |                |                 |              |              |
| Foreman                             |             |                |                 |              |              |
| Maximum .....                       |             | YEAR.....      |                 |              | 137,441.52   |
| Bookkeeper/timekeeper               |             |                |                 |              |              |
| Minimum .....                       |             | YEAR.....      |                 |              | 42,460.48    |
| Average .....                       |             | YEAR.....      |                 |              | 55,448.39    |
| Maximum .....                       |             | YEAR.....      |                 |              | 71,738.78    |
| Watchman                            |             |                |                 |              |              |
| Minimum .....                       |             | YEAR.....      |                 |              | 31,637.22    |
| Average .....                       |             | YEAR.....      |                 |              | 42,321.72    |
| Maximum .....                       |             | YEAR.....      |                 |              | 53,422.50    |
| <b>01322.30 SURVEYING</b>           |             |                |                 |              |              |
| SURVEYING                           |             |                |                 |              |              |
| Surveying                           |             |                |                 |              |              |
| Small crew .....                    |             | DAY .....      |                 |              | 1,320.00     |
| Average crew .....                  |             | DAY .....      |                 |              | 1,980.00     |
| Large crew .....                    |             | DAY .....      |                 |              | 2,610.00     |
| Lot lines and boundaries            |             |                |                 |              |              |
| Minimum .....                       |             | ACRE.....      |                 |              | 950.00       |
| Average .....                       |             | ACRE.....      |                 |              | 1,950.00     |
| Maximum .....                       |             | ACRE.....      |                 |              | 3,170.00     |
| <b>01323.30 JOB REQUIREMENTS</b>    |             |                |                 |              |              |
| JOB REQUIREMENTS                    |             |                |                 |              |              |
| Job photographs, small jobs         |             |                |                 |              |              |
| Minimum .....                       |             | EA .....       |                 |              | 190.00       |
| Average .....                       |             | EA .....       |                 |              | 280.00       |
| Maximum .....                       |             | EA .....       |                 |              | 660.00       |
| Large projects                      |             |                |                 |              |              |
| Minimum .....                       |             | EA .....       |                 |              | 950.00       |
| Average .....                       |             | EA .....       |                 |              | 1,420.00     |
| Maximum .....                       |             | EA .....       |                 |              | 4,730.00     |
| <b>01452.30 TESTING</b>             |             |                |                 |              |              |
| TESTING                             |             |                |                 |              |              |
| Testing concrete, per test          |             |                |                 |              |              |
| Minimum .....                       |             | EA .....       |                 |              | 32.00        |
| Average .....                       |             | EA .....       |                 |              | 53.00        |
| Maximum .....                       |             | EA .....       |                 |              | 110.00       |
| <b>01540.01 CONSTRUCTION AIDS</b>   |             |                |                 |              |              |
| CONSTRUCTION AIDS                   |             |                |                 |              |              |
| Scaffolding/staging, rent per month |             |                |                 |              |              |
| Measured by lineal feet of base     |             |                |                 |              |              |
| 10' high .....                      |             | LF .....       |                 |              | 18.00        |
| 20' high .....                      |             | LF .....       |                 |              | 32.75        |
| 30' high .....                      |             | LF .....       |                 |              | 46.00        |
| Measured by square foot of surface  |             |                |                 |              |              |
| Minimum .....                       |             | SF .....       |                 |              | 0.80         |
| Average .....                       |             | SF .....       |                 |              | 1.38         |
| Maximum .....                       |             | SF .....       |                 |              | 2.47         |
| Tarpaulins, fabric, per job         |             |                |                 |              |              |
| Minimum .....                       |             | SF .....       |                 |              | 0.37         |
| Average .....                       |             | SF .....       |                 |              | 0.63         |
| Maximum .....                       |             | SF .....       |                 |              | 1.64         |
| Rolling scaffold                    |             |                |                 |              |              |
| To 10'                              |             |                |                 |              |              |
| By day .....                        |             | EA .....       |                 |              | 63.00        |
| By week .....                       |             | EA .....       |                 |              | 130.00       |
| By month .....                      |             | EA .....       |                 |              | 320.00       |
| To 15'                              |             |                |                 |              |              |
| By day .....                        |             | EA .....       |                 |              | 76.00        |
| By week .....                       |             | EA .....       |                 |              | 150.00       |
| By month .....                      |             | EA .....       |                 |              | 340.00       |
| To 20'                              |             |                |                 |              |              |
| By day .....                        |             | EA .....       |                 |              | 89.00        |
| By week .....                       |             | EA .....       |                 |              | 180.00       |

## DIVISION 01 GENERAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>01540.01 CONSTRUCTION AIDS (Cont.)</b> |             |                |                 |              |              |
| To 20'                                    |             |                |                 |              |              |
| By month .....                            | EA          |                |                 |              | 380.00       |
| <b>01540.08 MOBILIZATION</b>              |             |                |                 |              |              |
| MOBILIZATION                              |             |                |                 |              |              |
| Equipment mobilization                    |             |                |                 |              |              |
| Bulldozer                                 |             |                |                 |              |              |
| Minimum .....                             | EA          |                |                 |              | 300.00       |
| Average .....                             | EA          |                |                 |              | 620.00       |
| Maximum .....                             | EA          |                |                 |              | 1,040.00     |
| Backhoe/front-end loader                  |             |                |                 |              |              |
| Minimum .....                             | EA          |                |                 |              | 180.00       |
| Average .....                             | EA          |                |                 |              | 310.00       |
| Maximum .....                             | EA          |                |                 |              | 680.00       |
| Truck crane                               |             |                |                 |              |              |
| Minimum .....                             | EA          |                |                 |              | 750.00       |
| Average .....                             | EA          |                |                 |              | 1,160.00     |
| Maximum .....                             | EA          |                |                 |              | 1,990.00     |
| <b>01540.09 EQUIPMENT</b>                 |             |                |                 |              |              |
| EQUIPMENT                                 |             |                |                 |              |              |
| Air compressor                            |             |                |                 |              |              |
| 60 cfm                                    |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 130.00       |
| By week .....                             | EA          |                |                 |              | 380.00       |
| By month .....                            | EA          |                |                 |              | 1,160.00     |
| 300 cfm                                   |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 270.00       |
| By week .....                             | EA          |                |                 |              | 840.00       |
| By month .....                            | EA          |                |                 |              | 2,540.00     |
| Air tools, per compressor, per day        |             |                |                 |              |              |
| Minimum .....                             | EA          |                |                 |              | 53.00        |
| Average .....                             | EA          |                |                 |              | 66.00        |
| Maximum .....                             | EA          |                |                 |              | 93.00        |
| Generators, 5 kw                          |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 120.00       |
| By week .....                             | EA          |                |                 |              | 360.00       |
| By month .....                            | EA          |                |                 |              | 1,100.00     |
| Heaters, salamander type, per week        |             |                |                 |              |              |
| Minimum .....                             | EA          |                |                 |              | 140.00       |
| Average .....                             | EA          |                |                 |              | 200.00       |
| Maximum .....                             | EA          |                |                 |              | 430.00       |
| Pumps, submersible                        |             |                |                 |              |              |
| 50 gpm                                    |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 96.00        |
| By week .....                             | EA          |                |                 |              | 290.00       |
| By month .....                            | EA          |                |                 |              | 860.00       |
| Pickup truck                              |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 160.00       |
| By week .....                             | EA          |                |                 |              | 470.00       |
| By month .....                            | EA          |                |                 |              | 1,470.00     |
| Dump truck                                |             |                |                 |              |              |
| 6 c.y. truck                              |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 430.00       |
| By week .....                             | EA          |                |                 |              | 1,300.00     |
| By month .....                            | EA          |                |                 |              | 3,900.00     |
| 10 c.y. truck                             |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 540.00       |
| By week .....                             | EA          |                |                 |              | 1,620.00     |
| By month .....                            | EA          |                |                 |              | 4,870.00     |
| 16 c.y. truck                             |             |                |                 |              |              |
| By day .....                              | EA          |                |                 |              | 870.00       |
| By week .....                             | EA          |                |                 |              | 2,590.00     |
| By month .....                            | EA          |                |                 |              | 7,800.00     |

## DIVISION 01 GENERAL

|                                   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-----------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>01540.09 EQUIPMENT (Cont.)</b> |             |                |                 |              |              |
| Backhoe, track mounted            |             |                |                 |              |              |
| 1/2 c.y. capacity                 |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 670.00       |
| By week .....                     | EA          |                |                 |              | 1,620.00     |
| By month .....                    | EA          |                |                 |              | 3,680.00     |
| Backhoe/loader, rubber tired      |             |                |                 |              |              |
| 1/2 c.y. capacity                 |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 600.00       |
| By week .....                     | EA          |                |                 |              | 1,800.00     |
| By month .....                    | EA          |                |                 |              | 5,420.00     |
| 3/4 c.y. capacity                 |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 720.00       |
| By week .....                     | EA          |                |                 |              | 2,160.00     |
| By month .....                    | EA          |                |                 |              | 6,500.00     |
| Bulldozer                         |             |                |                 |              |              |
| 75 hp                             |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 840.00       |
| By week .....                     | EA          |                |                 |              | 2,530.00     |
| By month .....                    | EA          |                |                 |              | 7,590.00     |
| Cranes, crawler type              |             |                |                 |              |              |
| 15 ton capacity                   |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 1,080.00     |
| By week .....                     | EA          |                |                 |              | 3,250.00     |
| By month .....                    | EA          |                |                 |              | 9,750.00     |
| Truck mounted, hydraulic          |             |                |                 |              |              |
| 15 ton capacity                   |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 1,020.00     |
| By week .....                     | EA          |                |                 |              | 3,070.00     |
| By month .....                    | EA          |                |                 |              | 8,860.00     |
| Loader, rubber tired              |             |                |                 |              |              |
| 1 c.y. capacity                   |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 720.00       |
| By week .....                     | EA          |                |                 |              | 2,170.00     |
| By month .....                    | EA          |                |                 |              | 6,500.00     |
| Electric, scissor platform lift   |             |                |                 |              |              |
| To 10'                            |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 150.00       |
| By week .....                     | EA          |                |                 |              | 290.00       |
| By month .....                    | EA          |                |                 |              | 600.00       |
| To 18'                            |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 150.00       |
| By week .....                     | EA          |                |                 |              | 300.00       |
| By month .....                    | EA          |                |                 |              | 620.00       |
| To 20'                            |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 180.00       |
| By week .....                     | EA          |                |                 |              | 360.00       |
| By month .....                    | EA          |                |                 |              | 750.00       |
| Concrete Pump                     |             |                |                 |              |              |
| To 28 cy per hour                 |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 190.00       |
| By week .....                     | EA          |                |                 |              | 390.00       |
| By month .....                    | EA          |                |                 |              | 790.00       |
| To 38 cy per hour                 |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 220.00       |
| By week .....                     | EA          |                |                 |              | 450.00       |
| By month .....                    | EA          |                |                 |              | 910.00       |
| To 46 cy per hour                 |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 300.00       |
| By week .....                     | EA          |                |                 |              | 600.00       |
| By month .....                    | EA          |                |                 |              | 1,270.00     |
| Dumpsters                         |             |                |                 |              |              |
| 10 c.y.                           |             |                |                 |              |              |
| By day .....                      | EA          |                |                 |              | 320.00       |
| By week .....                     | EA          |                |                 |              | 380.00       |

## DIVISION 01 GENERAL

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>01540.09 EQUIPMENT (Cont.)</u></b>                 |             |                |                 |              |              |
| 10 c.y.  |             |                |                 |              |              |
| By month .....   | EA          |                |                 |              | 510.00       |
| 20 c.y.  |             |                |                 |              |              |
| By day .....   | EA          |                |                 |              | 440.00       |
| By week .....  | EA          |                |                 |              | 510.00       |
| By month .....   | EA          |                |                 |              | 630.00       |
| 30 c.y.  |             |                |                 |              |              |
| By day .....   | EA          |                |                 |              | 570.00       |
| By week .....  | EA          |                |                 |              | 630.00       |
| By month .....   | EA          |                |                 |              | 760.00       |
| Additional dump charges.                                 |             |                |                 |              |              |
| Asphalt, recycle .....                                   | EA          |                |                 |              | 250.00       |
| Concrete, recycle .....                                  | EA          |                |                 |              | 230.00       |
| Soil, recycle .....                                      | EA          |                |                 |              | 150.00       |
| Assorted mix of conc, asphalt, soil at landfill .....    | EA          |                |                 |              | 95.00        |
| Non-contaminated debris at landfill .....                | EA          |                |                 |              | 130.00       |
| <b><u>01562.30 TEMPORARY FACILITIES</u></b>              |             |                |                 |              |              |
| TEMPORARY FACILITIES                                     |             |                |                 |              |              |
| Barricades, temporary                                    |             |                |                 |              |              |
| Highway  |             |                |                 |              |              |
| Concrete .....   | LF          | 0.080          | 46.25           | 6.40         | 52.65        |
| Wood .....   | LF          | 0.032          | 10.50           | 2.56         | 13.06        |
| Steel .....  | LF          | 0.027          | 9.61            | 2.13         | 11.74        |
| Pedestrian barricades                                    |             |                |                 |              |              |
| Plywood .....  | SF          | 0.027          | 9.61            | 2.13         | 11.74        |
| Chain link fence .....                                   | SF          | 0.027          | 7.69            | 2.13         | 9.82         |
| Trailers, general office type, per month                 |             |                |                 |              |              |
| Minimum .....  | EA          |                |                 |              | 290.00       |
| Average .....  | EA          |                |                 |              | 490.00       |
| Maximum .....  | EA          |                |                 |              | 980.00       |
| For skirting around trailer .....                        | EA          |                |                 |              | 1,030.00     |
| Crew change trailers, per month                          |             |                |                 |              |              |
| Minimum .....  | EA          |                |                 |              | 180.00       |
| Average .....  | EA          |                |                 |              | 200.00       |
| Maximum .....  | EA          |                |                 |              | 290.00       |
| Temp const lights with protective cages, 10 lights ..... | EA          |                |                 |              | 120.00       |
| Storage trailers, per month                              |             |                |                 |              |              |
| Minimum .....  | EA          |                |                 |              | 150.00       |
| Average .....  | EA          |                |                 |              | 180.00       |
| Maximum .....  | EA          |                |                 |              | 270.00       |
| Temp components  |             |                |                 |              |              |
| Plywood, 1/2" thick, per sheet                           |             |                |                 |              |              |
| Minimum .....  | EA          |                |                 |              | 36.25        |
| Average .....  | EA          |                |                 |              | 42.25        |
| Maximum .....  | EA          |                |                 |              | 54.00        |
| Lumber, per foot   |             |                |                 |              |              |
| Minimum .....  | LF          |                |                 |              | 1.04         |
| Average .....  | LF          |                |                 |              | 1.59         |
| Maximum .....  | LF          |                |                 |              | 3.58         |
| Masonite / Protection board, per sheet                   |             |                |                 |              |              |
| Minimum .....  | EA          |                |                 |              | 14.50        |
| Average .....  | EA          |                |                 |              | 21.75        |
| Maximum .....  | EA          |                |                 |              | 30.25        |
| <b><u>01581.30 SIGNS</u></b>                             |             |                |                 |              |              |
| SIGNS  |             |                |                 |              |              |
| Construction signs, temporary                            |             |                |                 |              |              |
| Signs, 2' x 4'   |             |                |                 |              |              |
| Minimum .....  | EA          |                |                 |              | 49.00        |
| Average .....  | EA          |                |                 |              | 120.00       |
| Maximum .....  | EA          |                |                 |              | 410.00       |
| Signs, 4' x 8'   |             |                |                 |              |              |
| Minimum .....  | EA          |                |                 |              | 100.00       |
| Average .....  | EA          |                |                 |              | 270.00       |
| Maximum .....  | EA          |                |                 |              | 1,150.00     |

## DIVISION 01 GENERAL

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|                               | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>01581.30 SIGNS (Cont.)</b> |             |                |                 |              |              |
| Construction signs, temporary |             |                |                 |              |              |
| Signs, 8' x 8'                |             |                |                 |              |              |
| Minimum .....                 | EA          |                |                 |              | 130.00       |
| Average .....                 | EA          |                |                 |              | 410.00       |
| Maximum .....                 | EA          |                |                 |              | 4,160.00     |

## DIVISION 02 SITE CONSTRUCTION

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>02321.30 SOIL BORING</b>                        |             |                |                 |              |              |
| SOIL BORING  |             |                |                 |              |              |
| Borings, uncased, stable earth                     |             |                |                 |              |              |
| 2-1/2" dia.  | LF          | 0.300          |                 | 43.75        | 43.75        |
| 4" dia.  | LF          | 0.343          |                 | 50.00        | 50.00        |
| Cased, including samples                           |             |                |                 |              |              |
| 2-1/2" dia.  | LF          | 0.400          |                 | 59.00        | 59.00        |
| 4" dia.  | LF          | 0.686          |                 | 100.00       | 100.00       |
| Drilling in rock                                   |             |                |                 |              |              |
| No sampling  | LF          | 0.632          |                 | 92.00        | 92.00        |
| With casing and sampling                           | LF          | 0.800          |                 | 120.00       | 120.00       |
| Test pits  |             |                |                 |              |              |
| Light soil   | EA          | 4.000          |                 | 590.00       | 590.00       |
| Heavy soil   | EA          | 6.000          |                 | 880.00       | 880.00       |
| <b>02411.32 FENCE DEMOLITION</b>                   |             |                |                 |              |              |
| FENCE DEMOLITION                                   |             |                |                 |              |              |
| Remove fencing                                     |             |                |                 |              |              |
| Chain link, 8' high                                |             |                |                 |              |              |
| For disposal                                       | LF          | 0.040          |                 | 3.20         | 3.20         |
| For reuse  | LF          | 0.100          |                 | 8.00         | 8.00         |
| Wood   |             |                |                 |              |              |
| 4' high  | SF          | 0.027          |                 | 2.13         | 2.13         |
| Masonry  |             |                |                 |              |              |
| 8" thick   |             |                |                 |              |              |
| 4' high  | SF          | 0.080          |                 | 6.40         | 6.40         |
| 6' high  | SF          | 0.100          |                 | 8.00         | 8.00         |
| <b>02411.33 CURB &amp; GUTTER DEMOLITION</b>       |             |                |                 |              |              |
| CURB & GUTTER DEMOLITION                           |             |                |                 |              |              |
| Removal, plain concrete curb                       | LF          | 0.060          |                 | 8.77         | 8.77         |
| Plain concrete curb and 2' gutter                  | LF          | 0.083          |                 | 12.00        | 12.00        |
| <b>02421.32 GUARDRAIL DEMOLITION</b>               |             |                |                 |              |              |
| GUARDRAIL DEMOLITION                               |             |                |                 |              |              |
| Remove standard guardrail                          |             |                |                 |              |              |
| Steel  | LF          | 0.080          |                 | 11.75        | 11.75        |
| Wood   | LF          | 0.062          |                 | 9.00         | 9.00         |
| <b>02431.33 HYDRANT DEMOLITION</b>                 |             |                |                 |              |              |
| HYDRANT DEMOLITION                                 |             |                |                 |              |              |
| Remove and reset fire hydrant                      | EA          | 12.000         |                 | 1,760.00     | 1,760.00     |
| <b>02441.34 PAVEMENT AND SIDEWALK DEMOLITION</b>   |             |                |                 |              |              |
| PAVEMENT AND SIDEWALK DEMOLITION                   |             |                |                 |              |              |
| Concrete pavement, 6" thick                        |             |                |                 |              |              |
| No reinforcement                                   | SY          | 0.160          |                 | 23.50        | 23.50        |
| With wire mesh                                     | SY          | 0.240          |                 | 35.00        | 35.00        |
| With rebars  | SY          | 0.300          |                 | 43.75        | 43.75        |
| Sidewalk, 4" thick, with disposal                  | SY          | 0.080          |                 | 11.75        | 11.75        |
| <b>02451.34 DRAINAGE PIPING DEMOLITION</b>         |             |                |                 |              |              |
| DRAINAGE PIPING DEMOLITION                         |             |                |                 |              |              |
| Remove drainage pipe, not including excavation     |             |                |                 |              |              |
| 12" dia.   | LF          | 0.100          |                 | 14.50        | 14.50        |
| 18" dia.   | LF          | 0.126          |                 | 18.50        | 18.50        |
| <b>02461.34 GAS PIPING DEMOLITION</b>              |             |                |                 |              |              |
| GAS PIPING DEMOLITION                              |             |                |                 |              |              |
| Remove welded steel pipe, not including excavation |             |                |                 |              |              |
| 4" dia.  | LF          | 0.150          |                 | 22.00        | 22.00        |
| 5" dia.  | LF          | 0.240          |                 | 35.00        | 35.00        |
| <b>02471.34 SANITARY PIPING DEMOLITION</b>         |             |                |                 |              |              |
| SANITARY PIPING DEMOLITION                         |             |                |                 |              |              |
| Remove sewer pipe, not including excavation        |             |                |                 |              |              |
| 4" dia.  | LF          | 0.096          |                 | 14.00        | 14.00        |

## DIVISION 02 SITE CONSTRUCTION

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>02481.34 WATER PIPING DEMOLITION</b>       |             |                |                 |              |              |
| WATER PIPING DEMOLITION                       |             |                |                 |              |              |
| Remove water pipe, not including excavation   |             |                |                 |              |              |
| 4" dia. ....                                  | LF          | 0.109          |                 | 16.00        | 16.00        |
| <b>02491.35 SAW CUTTING PAVEMENT</b>          |             |                |                 |              |              |
| SAW CUTTING PAVEMENT                          |             |                |                 |              |              |
| Pavement, bituminous                          |             |                |                 |              |              |
| 2" thick ....                                 | LF          | 0.016          |                 | 2.72         | 2.72         |
| 3" thick ....                                 | LF          | 0.020          |                 | 3.40         | 3.40         |
| Concrete pavement, with wire mesh             |             |                |                 |              |              |
| 4" thick ....                                 | LF          | 0.031          |                 | 5.23         | 5.23         |
| 5" thick ....                                 | LF          | 0.033          |                 | 5.67         | 5.67         |
| Plain concrete, unreinforced                  |             |                |                 |              |              |
| 4" thick ....                                 | LF          | 0.027          |                 | 4.53         | 4.53         |
| 5" thick ....                                 | LF          | 0.031          |                 | 5.23         | 5.23         |
| <b>02510.61 COMPLETE BUILDING DEMOLITION</b>  |             |                |                 |              |              |
| COMPLETE BUILDING DEMOLITION                  |             |                |                 |              |              |
| Building, complete with disposal              |             |                |                 |              |              |
| Wood frame ....                               | CF          | 0.003          |                 | 0.51         | 0.51         |
| <b>02511.90 SELECTIVE BUILDING DEMOLITION</b> |             |                |                 |              |              |
| SELECTIVE BUILDING DEMOLITION                 |             |                |                 |              |              |
| Partition removal                             |             |                |                 |              |              |
| Concrete block partitions                     |             |                |                 |              |              |
| 8" thick ....                                 | SF          | 0.053          |                 | 4.27         | 4.27         |
| Brick masonry partitions                      |             |                |                 |              |              |
| 4" thick ....                                 | SF          | 0.040          |                 | 3.20         | 3.20         |
| 8" thick ....                                 | SF          | 0.050          |                 | 4.00         | 4.00         |
| Stud partitions                               |             |                |                 |              |              |
| Metal or wood, with drywall both sides ....   | SF          | 0.040          |                 | 3.20         | 3.20         |
| Door and frame removal                        |             |                |                 |              |              |
| Wood in framed wall                           |             |                |                 |              |              |
| 2'6"x6'8" ....                                | EA          | 0.571          |                 | 45.75        | 45.75        |
| 3'x6'8" ....                                  | EA          | 0.667          |                 | 53.00        | 53.00        |
| Ceiling removal                               |             |                |                 |              |              |
| Acoustical tile ceiling                       |             |                |                 |              |              |
| Adhesive fastened ....                        | SF          | 0.008          |                 | 0.64         | 0.64         |
| Furred and glued ....                         | SF          | 0.007          |                 | 0.53         | 0.53         |
| Suspended grid ....                           | SF          | 0.005          |                 | 0.40         | 0.40         |
| Drywall ceiling                               |             |                |                 |              |              |
| Furred and nailed ....                        | SF          | 0.009          |                 | 0.71         | 0.71         |
| Nailed to framing ....                        | SF          | 0.008          |                 | 0.64         | 0.64         |
| Window removal                                |             |                |                 |              |              |
| Metal windows, trim included                  |             |                |                 |              |              |
| 2'x3' ....                                    | EA          | 0.800          |                 | 64.00        | 64.00        |
| 3'x4' ....                                    | EA          | 1.000          |                 | 80.00        | 80.00        |
| 4'x8' ....                                    | EA          | 2.000          |                 | 160.00       | 160.00       |
| Wood windows, trim included                   |             |                |                 |              |              |
| 2'x3' ....                                    | EA          | 0.444          |                 | 35.50        | 35.50        |
| 3'x4' ....                                    | EA          | 0.533          |                 | 42.75        | 42.75        |
| 6'x8' ....                                    | EA          | 0.800          |                 | 64.00        | 64.00        |
| Concrete block walls, not including toothing  |             |                |                 |              |              |
| 4" thick ....                                 | SF          | 0.044          |                 | 3.55         | 3.55         |
| 6" thick ....                                 | SF          | 0.047          |                 | 3.76         | 3.76         |
| 8" thick ....                                 | SF          | 0.050          |                 | 4.00         | 4.00         |
| Rubbish handling                              |             |                |                 |              |              |
| Load in dumpster or truck                     |             |                |                 |              |              |
| Minimum ....                                  | CF          | 0.018          |                 | 1.42         | 1.42         |
| Maximum ....                                  | CF          | 0.027          |                 | 2.13         | 2.13         |
| Rubbish hauling                               |             |                |                 |              |              |
| Rubbish chute, plastic. Minimum ....          | LF          |                |                 |              | 22.00        |
| Rubbish chute, plastic. Maximum ....          | LF          |                |                 |              | 55.00        |
| Hand loaded on trucks, 2 mile trip ....       | CY          | 0.320          |                 | 54.00        | 54.00        |
| Machine loaded on trucks, 2 mile trip ....    | CY          | 0.240          |                 | 35.00        | 35.00        |

## DIVISION 02 SITE CONSTRUCTION

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>02650.07 SEPTIC TANK REMOVAL</u></b> |             |                |                 |              |              |
| SEPTIC TANK REMOVAL                        |             |                |                 |              |              |
| Remove septic tank                         |             |                |                 |              |              |
| 1000 gals .....                            | EA .....    | 2.000 .....    | 290.00 .....    | 290.00 ..... | 290.00 ..... |
| 2000 gals .....                            | EA .....    | 2.400 .....    | 350.00 .....    | 350.00 ..... | 350.00 ..... |

## DIVISION 03 CONCRETE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>03111.30 BEAM FORMWORK</b>          |             |                |                 |              |              |
| BEAM FORMWORK                          |             |                |                 |              |              |
| Beam forms, job built                  |             |                |                 |              |              |
| Beam bottoms                           |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.133          | 6.69            | 13.75        | 20.44        |
| 4 uses .....                           | SF          | 0.118          | 2.50            | 12.00        | 14.50        |
| 5 uses .....                           | SF          | 0.114          | 2.28            | 11.75        | 14.03        |
| Beam sides                             |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.089          | 4.78            | 9.08         | 13.86        |
| 5 uses .....                           | SF          | 0.073          | 2.03            | 7.43         | 9.46         |
| <b>03111.32 COLUMN FORMWORK</b>        |             |                |                 |              |              |
| COLUMN FORMWORK                        |             |                |                 |              |              |
| Column, square forms, job built        |             |                |                 |              |              |
| 8" x 8" columns                        |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.160          | 5.63            | 16.25        | 21.88        |
| 5 uses .....                           | SF          | 0.138          | 1.99            | 14.00        | 15.99        |
| 12" x 12" columns                      |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.145          | 5.13            | 14.75        | 19.88        |
| 5 uses .....                           | SF          | 0.127          | 1.67            | 13.00        | 14.67        |
| Round fiber forms, 1 use               |             |                |                 |              |              |
| 10" dia. ....                          | LF          | 0.160          | 5.79            | 16.25        | 22.04        |
| 12" dia. ....                          | LF          | 0.163          | 7.13            | 16.75        | 23.88        |
| <b>03111.33 CURB FORMWORK</b>          |             |                |                 |              |              |
| CURB FORMWORK                          |             |                |                 |              |              |
| Curb forms                             |             |                |                 |              |              |
| Straight, 6" high                      |             |                |                 |              |              |
| 1 use .....                            | LF          | 0.080          | 3.35            | 8.18         | 11.53        |
| 5 uses .....                           | LF          | 0.067          | 1.23            | 6.81         | 8.04         |
| Curved, 6" high                        |             |                |                 |              |              |
| 1 use .....                            | LF          | 0.100          | 3.63            | 10.25        | 13.88        |
| 5 uses .....                           | LF          | 0.082          | 1.48            | 8.34         | 9.82         |
| <b>03111.35 EQUIPMENT PAD FORMWORK</b> |             |                |                 |              |              |
| EQUIPMENT PAD FORMWORK                 |             |                |                 |              |              |
| Equipment pad, job built               |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.100          | 5.84            | 10.25        | 16.09        |
| 3 uses .....                           | SF          | 0.089          | 2.81            | 9.08         | 11.89        |
| 5 uses .....                           | SF          | 0.080          | 1.74            | 8.18         | 9.92         |
| <b>03111.36 FOOTING FORMWORK</b>       |             |                |                 |              |              |
| FOOTING FORMWORK                       |             |                |                 |              |              |
| Wall footings, job built, continuous   |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.080          | 3.13            | 8.18         | 11.31        |
| 3 uses .....                           | SF          | 0.073          | 1.81            | 7.43         | 9.24         |
| 5 uses .....                           | SF          | 0.067          | 1.39            | 6.81         | 8.20         |
| <b>03111.37 GRADE BEAM FORMWORK</b>    |             |                |                 |              |              |
| GRADE BEAM FORMWORK                    |             |                |                 |              |              |
| Grade beams, job built                 |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.080          | 4.93            | 8.18         | 13.11        |
| 3 uses .....                           | SF          | 0.073          | 2.16            | 7.43         | 9.59         |
| 5 uses .....                           | SF          | 0.067          | 1.49            | 6.81         | 8.30         |
| <b>03111.38 PILE CAP FORMWORK</b>      |             |                |                 |              |              |
| PILE CAP FORMWORK                      |             |                |                 |              |              |
| Pile cap forms, job built              |             |                |                 |              |              |
| Square                                 |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.100          | 5.59            | 10.25        | 15.84        |
| 5 uses .....                           | SF          | 0.080          | 1.87            | 8.18         | 10.05        |
| <b>03111.39 SLAB / MAT FORMWORK</b>    |             |                |                 |              |              |
| SLAB / MAT FORMWORK                    |             |                |                 |              |              |
| Mat foundations, job built             |             |                |                 |              |              |
| 1 use .....                            | SF          | 0.100          | 4.88            | 10.25        | 15.13        |
| 3 uses .....                           | SF          | 0.089          | 2.08            | 9.08         | 11.16        |
| 5 uses .....                           | SF          | 0.080          | 1.41            | 8.18         | 9.59         |

## DIVISION 03 CONCRETE

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>03111.39 SLAB / MAT FORMWORK (Cont.)</b> |             |                |                 |              |              |
| Edge forms                                  |             |                |                 |              |              |
| 6" high                                     |             |                |                 |              |              |
| 1 use .....                                 | LF          | 0.073          | 4.69            | 7.43         | 12.12        |
| 3 uses .....                                | LF          | 0.067          | 1.99            | 6.81         | 8.80         |
| 5 uses .....                                | LF          | 0.062          | 1.35            | 6.29         | 7.64         |

### **03111.41 WALL FORMWORK**

#### WALL FORMWORK

Wall forms, exterior, job built

Up to 8' high wall

|              |    |       |      |      |       |
|--------------|----|-------|------|------|-------|
| 1 use .....  | SF | 0.080 | 5.26 | 8.18 | 13.44 |
| 3 uses ..... | SF | 0.073 | 2.56 | 7.43 | 9.99  |
| 5 uses ..... | SF | 0.067 | 1.93 | 6.81 | 8.74  |

Retaining wall forms

|              |    |       |      |      |       |
|--------------|----|-------|------|------|-------|
| 1 use .....  | SF | 0.089 | 4.89 | 9.08 | 13.97 |
| 3 uses ..... | SF | 0.080 | 2.24 | 8.18 | 10.42 |
| 5 uses ..... | SF | 0.073 | 1.66 | 7.43 | 9.09  |

Column pier and pilaster

|              |    |       |      |       |       |
|--------------|----|-------|------|-------|-------|
| 1 use .....  | SF | 0.160 | 5.53 | 16.25 | 21.78 |
| 5 uses ..... | SF | 0.114 | 2.48 | 11.75 | 14.23 |

### **03112.42 MISCELLANEOUS FORMWORK**

#### MISCELLANEOUS FORMWORK

Keyway forms (5 uses)

|             |    |       |      |      |      |
|-------------|----|-------|------|------|------|
| 2 x 4 ..... | LF | 0.040 | 0.43 | 4.09 | 4.52 |
| 2 x 6 ..... | LF | 0.044 | 0.62 | 4.54 | 5.16 |

Bulkheads

Walls, with keyways

|               |    |       |      |      |       |
|---------------|----|-------|------|------|-------|
| 3 piece ..... | LF | 0.080 | 7.44 | 8.18 | 15.62 |
|---------------|----|-------|------|------|-------|

Ground slab, with keyway

|               |    |       |      |      |       |
|---------------|----|-------|------|------|-------|
| 2 piece ..... | LF | 0.057 | 6.97 | 5.84 | 12.81 |
| 3 piece ..... | LF | 0.062 | 8.51 | 6.29 | 14.80 |

Chamfer strips

Wood

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 1/2" wide ..... | LF | 0.018 | 0.29 | 1.81 | 2.10 |
| 3/4" wide ..... | LF | 0.018 | 0.37 | 1.81 | 2.18 |
| 1" wide .....   | LF | 0.018 | 0.50 | 1.81 | 2.31 |

PVC

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 1/2" wide ..... | LF | 0.018 | 1.29 | 1.81 | 3.10 |
| 3/4" wide ..... | LF | 0.018 | 1.40 | 1.81 | 3.21 |
| 1" wide .....   | LF | 0.018 | 2.03 | 1.81 | 3.84 |

### **03150.01 CONCRETE ACCESSORIES**

#### CONCRETE ACCESSORIES

Expansion joint, poured

Asphalt

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 1/2" x 1" ..... | LF | 0.016 | 1.31 | 1.28 | 2.59 |
| 1" x 2" .....   | LF | 0.017 | 4.10 | 1.39 | 5.49 |

Expansion joint, premolded, in slabs

Asphalt

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 1/2" x 6" ..... | LF | 0.020 | 1.00 | 1.60 | 2.60 |
| 1" x 12" .....  | LF | 0.027 | 1.98 | 2.13 | 4.11 |

Cork

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 1/2" x 6" ..... | LF | 0.020 | 1.99 | 1.60 | 3.59 |
| 1" x 12" .....  | LF | 0.027 | 7.56 | 2.13 | 9.69 |

Neoprene sponge

|                 |    |       |       |      |       |
|-----------------|----|-------|-------|------|-------|
| 1/2" x 6" ..... | LF | 0.020 | 3.70  | 1.60 | 5.30  |
| 1" x 12" .....  | LF | 0.027 | 13.50 | 2.13 | 15.63 |

Polyethylene foam

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 1/2" x 6" ..... | LF | 0.020 | 1.25 | 1.60 | 2.85 |
| 1" x 12" .....  | LF | 0.027 | 5.73 | 2.13 | 7.86 |

Polyurethane foam

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 1/2" x 6" ..... | LF | 0.020 | 1.79 | 1.60 | 3.39 |
| 1" x 12" .....  | LF | 0.027 | 4.62 | 2.13 | 6.75 |

## DIVISION 03 CONCRETE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>03150.01 CONCRETE ACCESSORIES (Cont.)</b>               |             |                |                 |              |              |
| Expansion joint, premolded, in slabs                       |             |                |                 |              |              |
| Polyvinyl chloride foam                                    |             |                |                 |              |              |
| 1/2" x 6" .....  | LF          | 0.020          | 4.40            | 1.60         | 6.00         |
| 1" x 12" .....   | LF          | 0.027          | 9.51            | 2.13         | 11.64        |
| Rubber, gray sponge  |             |                |                 |              |              |
| 1/2" x 6" .....  | LF          | 0.020          | 4.97            | 1.60         | 6.57         |
| 1" x 12" .....   | LF          | 0.027          | 21.50           | 2.13         | 23.63        |
| Asphalt felt control joints or bond breaker, screed joints |             |                |                 |              |              |
| 4" slab .....  | LF          | 0.016          | 1.62            | 1.28         | 2.90         |
| 6" slab .....  | LF          | 0.018          | 2.03            | 1.42         | 3.45         |
| 8" slab .....  | LF          | 0.020          | 2.65            | 1.60         | 4.25         |
| Waterstops   |             |                |                 |              |              |
| Polyvinyl chloride   |             |                |                 |              |              |
| Ribbed   |             |                |                 |              |              |
| 3/16" thick x  |             |                |                 |              |              |
| 4" wide .....  | LF          | 0.040          | 2.57            | 3.20         | 5.77         |
| 6" wide .....  | LF          | 0.044          | 3.14            | 3.55         | 6.69         |
| 1/2" thick x   |             |                |                 |              |              |
| 9" wide .....  | LF          | 0.050          | 7.07            | 4.00         | 11.07        |
| Ribbed with center bulb                                    |             |                |                 |              |              |
| 3/16" thick x 9" wide .....                                | LF          | 0.050          | 5.94            | 4.00         | 9.94         |
| 3/8" thick x 9" wide .....                                 | LF          | 0.050          | 6.98            | 4.00         | 10.98        |
| Dumbbell type, 3/8" thick x 6" wide .....                  | LF          | 0.044          | 7.07            | 3.55         | 10.62        |
| Plain, 3/8" thick x 9" wide .....                          | LF          | 0.050          | 9.40            | 4.00         | 13.40        |
| Center bulb, 3/8" thick x 9" wide .....                    | LF          | 0.050          | 11.25           | 4.00         | 15.25        |
| Rubber   |             |                |                 |              |              |
| Vapor barrier  |             |                |                 |              |              |
| 4 mil polyethylene .....                                   | SF          | 0.003          | 0.06            | 0.21         | 0.27         |
| 6 mil polyethylene .....                                   | SF          | 0.003          | 0.09            | 0.21         | 0.30         |
| 10 mil polyethylene .....                                  | SF          | 0.003          | 0.14            | 0.21         | 0.35         |
| 15 mil polyethylene .....                                  | SF          | 0.003          | 0.15            | 0.21         | 0.36         |
| Gravel porous fill, under floor slabs, 3/4" stone .....    | CY          | 1.333          | 34.00           | 110.00       | 144.00       |
| Reinforcing accessories                                    |             |                |                 |              |              |
| Beam bolsters  |             |                |                 |              |              |
| 1-1/2" high, plain .....                                   | LF          | 0.008          | 0.59            | 0.83         | 1.42         |
| Galvanized .....   | LF          | 0.008          | 1.30            | 0.83         | 2.13         |
| 3" high  |             |                |                 |              |              |
| Plain .....  | LF          | 0.010          | 1.37            | 1.04         | 2.41         |
| Galvanized .....   | LF          | 0.010          | 2.09            | 1.04         | 3.13         |
| Slab bolsters  |             |                |                 |              |              |
| 1" high  |             |                |                 |              |              |
| Plain .....  | LF          | 0.004          | 0.63            | 0.41         | 1.04         |
| Galvanized .....   | LF          | 0.004          | 1.27            | 0.41         | 1.68         |
| 2" high  |             |                |                 |              |              |
| Plain .....  | LF          | 0.004          | 0.88            | 0.46         | 1.34         |
| Galvanized .....   | LF          | 0.004          | 1.49            | 0.46         | 1.95         |
| Chairs, high chairs  |             |                |                 |              |              |
| 2" high  |             |                |                 |              |              |
| Plastic .....  | EA          | 0.020          | 0.82            | 2.08         | 2.90         |
| Plain .....  | EA          | 0.020          | 1.70            | 2.08         | 3.78         |
| Galvanized .....   | EA          | 0.020          | 1.87            | 2.08         | 3.95         |
| 4-1/2" high  |             |                |                 |              |              |
| Plastic .....  | EA          | 0.023          | 1.65            | 2.38         | 4.03         |
| Plain .....  | EA          | 0.023          | 2.88            | 2.38         | 5.26         |
| Galvanized .....   | EA          | 0.023          | 4.88            | 2.38         | 7.26         |
| Continuous, high chair                                     |             |                |                 |              |              |
| 3" high  |             |                |                 |              |              |
| Plain .....  | LF          | 0.005          | 2.36            | 0.55         | 2.91         |
| Galvanized .....   | LF          | 0.005          | 2.92            | 0.55         | 3.47         |

## **03210.01 BEAM REINFORCING**

### BEAM REINFORCING

#### Beam-girders

|               |     |        |          |          |          |
|---------------|-----|--------|----------|----------|----------|
| #3 - #4 ..... | TON | 20.000 | 1,880.00 | 2,090.00 | 3,970.00 |
| #5 - #6 ..... | TON | 16.000 | 1,650.00 | 1,670.00 | 3,320.00 |

## DIVISION 03 CONCRETE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u>   | <u>Total</u> |
|--|-------------|----------------|-----------------|----------------|--------------|
| <b><u>03210.03 COLUMN REINFORCING</u></b>        |             |                |                 |                |              |
| COLUMN REINFORCING                               |             |                |                 |                |              |
| Columns  |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 22.857 .....   | 1,880.00 .....  | 2,390.00 ..... | 4,270.00     |
| #5 - #6 .....                                    | TON .....   | 17.778 .....   | 1,650.00 .....  | 1,860.00 ..... | 3,510.00     |
| <b><u>03210.04 ELEVATED SLAB REINFORCING</u></b> |             |                |                 |                |              |
| ELEVATED SLAB REINFORCING                        |             |                |                 |                |              |
| Elevated slab                                    |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 10.000 .....   | 1,880.00 .....  | 1,040.00 ..... | 2,920.00     |
| #5 - #6 .....                                    | TON .....   | 8.889 .....    | 1,650.00 .....  | 930.00 .....   | 2,580.00     |
| <b><u>03210.05 EQUIP. PAD REINFORCING</u></b>    |             |                |                 |                |              |
| EQUIP. PAD REINFORCING                           |             |                |                 |                |              |
| Equipment pad                                    |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 16.000 .....   | 1,880.00 .....  | 1,670.00 ..... | 3,550.00     |
| #5 - #6 .....                                    | TON .....   | 14.545 .....   | 1,650.00 .....  | 1,520.00 ..... | 3,170.00     |
| <b><u>03210.06 FOOTING REINFORCING</u></b>       |             |                |                 |                |              |
| FOOTING REINFORCING                              |             |                |                 |                |              |
| Footings   |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 13.333 .....   | 1,880.00 .....  | 1,390.00 ..... | 3,270.00     |
| #5 - #6 .....                                    | TON .....   | 11.429 .....   | 1,650.00 .....  | 1,190.00 ..... | 2,840.00     |
| #7 - #8 .....                                    | TON .....   | 10.000 .....   | 1,610.00 .....  | 1,040.00 ..... | 2,650.00     |
| Straight dowels, 24" long                        |             |                |                 |                |              |
| 3/4" dia. (#6) .....                             | EA .....    | 0.019 .....    | 5.24 .....      | 1.94 .....     | 7.18         |
| 5/8" dia. (#5) .....                             | EA .....    | 0.017 .....    | 4.53 .....      | 1.81 .....     | 6.34         |
| 1/2" dia. (#4) .....                             | EA .....    | 0.016 .....    | 3.41 .....      | 1.67 .....     | 5.08         |
| <b><u>03210.07 FOUNDATION REINFORCING</u></b>    |             |                |                 |                |              |
| FOUNDATION REINFORCING                           |             |                |                 |                |              |
| Foundations                                      |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 13.333 .....   | 1,880.00 .....  | 1,390.00 ..... | 3,270.00     |
| #5 - #6 .....                                    | TON .....   | 11.429 .....   | 1,650.00 .....  | 1,190.00 ..... | 2,840.00     |
| #7 - #8 .....                                    | TON .....   | 10.000 .....   | 1,610.00 .....  | 1,040.00 ..... | 2,650.00     |
| <b><u>03210.08 GRADE BEAM REINFORCING</u></b>    |             |                |                 |                |              |
| GRADE BEAM REINFORCING                           |             |                |                 |                |              |
| Grade beams                                      |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 12.308 .....   | 1,880.00 .....  | 1,280.00 ..... | 3,160.00     |
| #5 - #6 .....                                    | TON .....   | 10.667 .....   | 1,650.00 .....  | 1,110.00 ..... | 2,760.00     |
| #7 - #8 .....                                    | TON .....   | 9.412 .....    | 1,610.00 .....  | 980.00 .....   | 2,590.00     |
| <b><u>03210.09 SLAB / MAT REINFORCING</u></b>    |             |                |                 |                |              |
| SLAB / MAT REINFORCING                           |             |                |                 |                |              |
| Bars, slabs                                      |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 13.333 .....   | 1,880.00 .....  | 1,390.00 ..... | 3,270.00     |
| #5 - #6 .....                                    | TON .....   | 11.429 .....   | 1,650.00 .....  | 1,190.00 ..... | 2,840.00     |
| Wire mesh, slabs                                 |             |                |                 |                |              |
| Galvanized                                       |             |                |                 |                |              |
| 2x2  |             |                |                 |                |              |
| W.9xW.9 .....                                    | SF .....    | 0.005 .....    | 2.64 .....      | 0.55 .....     | 3.19         |
| 4x4  |             |                |                 |                |              |
| W1.4xW1.4 .....                                  | SF .....    | 0.005 .....    | 0.67 .....      | 0.55 .....     | 1.22         |
| W2.0xW2.0 .....                                  | SF .....    | 0.006 .....    | 0.88 .....      | 0.59 .....     | 1.47         |
| W2.9xW2.9 .....                                  | SF .....    | 0.006 .....    | 1.22 .....      | 0.64 .....     | 1.86         |
| W4.0xW4.0 .....                                  | SF .....    | 0.007 .....    | 1.81 .....      | 0.69 .....     | 2.50         |
| 6x6  |             |                |                 |                |              |
| W1.4xW1.4 .....                                  | SF .....    | 0.004 .....    | 0.62 .....      | 0.41 .....     | 1.03         |
| W2.0xW2.0 .....                                  | SF .....    | 0.004 .....    | 0.88 .....      | 0.46 .....     | 1.34         |
| W2.9xW2.9 .....                                  | SF .....    | 0.005 .....    | 1.18 .....      | 0.49 .....     | 1.67         |
| W4.0xW4.0 .....                                  | SF .....    | 0.005 .....    | 1.27 .....      | 0.55 .....     | 1.82         |
| <b><u>03210.11 WALL REINFORCING</u></b>          |             |                |                 |                |              |
| WALL REINFORCING                                 |             |                |                 |                |              |
| Walls  |             |                |                 |                |              |
| #3 - #4 .....                                    | TON .....   | 11.429 .....   | 1,880.00 .....  | 1,190.00 ..... | 3,070.00     |
| #5 - #6 .....                                    | TON .....   | 10.000 .....   | 1,650.00 .....  | 1,040.00 ..... | 2,690.00     |

## DIVISION 03 CONCRETE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>03210.11 WALL REINFORCING (Cont.)</b> |             |                |                 |              |              |
| Masonry wall (horizontal)                |             |                |                 |              |              |
| #3 - #4 .....                            | TON         | 32.000         | 1,880.00        | 3,340.00     | 5,220.00     |
| #5 - #6 .....                            | TON         | 26.667         | 1,650.00        | 2,780.00     | 4,430.00     |
| Galvanized                               |             |                |                 |              |              |
| #3 - #4 .....                            | TON         | 32.000         | 3,210.00        | 3,340.00     | 6,550.00     |
| #5 - #6 .....                            | TON         | 26.667         | 3,030.00        | 2,780.00     | 5,810.00     |
| Masonry wall (vertical)                  |             |                |                 |              |              |
| #3 - #4 .....                            | TON         | 40.000         | 1,880.00        | 4,180.00     | 6,060.00     |
| #5 - #6 .....                            | TON         | 32.000         | 1,650.00        | 3,340.00     | 4,990.00     |
| Galvanized                               |             |                |                 |              |              |
| #3 - #4 .....                            | TON         | 40.000         | 3,210.00        | 4,180.00     | 7,390.00     |
| #5 - #6 .....                            | TON         | 32.000         | 3,030.00        | 3,340.00     | 6,370.00     |

### **03210.16 PILE CAP REINFORCING**

#### PILE CAP REINFORCING

##### Pile caps

|               |     |        |          |          |          |
|---------------|-----|--------|----------|----------|----------|
| #3 - #4 ..... | TON | 20.000 | 1,880.00 | 2,090.00 | 3,970.00 |
| #5 - #6 ..... | TON | 17.778 | 1,650.00 | 1,860.00 | 3,510.00 |
| #7 - #8 ..... | TON | 16.000 | 1,610.00 | 1,670.00 | 3,280.00 |

### **03305.31 CONCRETE ADMIXTURES**

#### CONCRETE ADMIXTURES

##### Concrete admixtures

|                                |     |  |  |  |       |
|--------------------------------|-----|--|--|--|-------|
| Water reducing admixture ..... | GAL |  |  |  | 20.25 |
| Set retarder .....             | GAL |  |  |  | 16.75 |
| Air entraining agent .....     | GAL |  |  |  | 19.25 |

### **03310.01 BEAM CONCRETE**

#### BEAM CONCRETE

##### Beams and girders

|                         |    |       |        |        |        |
|-------------------------|----|-------|--------|--------|--------|
| 2500# or 3000# concrete |    |       |        |        |        |
| By crane .....          | CY | 0.960 | 190.00 | 130.00 | 320.00 |
| By pump .....           | CY | 0.873 | 190.00 | 120.00 | 310.00 |
| By hand buggy.....      | CY | 0.800 | 190.00 | 64.00  | 254.00 |
| 3500# or 4000# concrete |    |       |        |        |        |
| By crane .....          | CY | 0.960 | 200.00 | 130.00 | 330.00 |
| By pump .....           | CY | 0.873 | 200.00 | 120.00 | 320.00 |
| By hand buggy.....      | CY | 0.800 | 200.00 | 64.00  | 264.00 |

### **03310.02 COLUMN CONCRETE**

#### COLUMN CONCRETE

##### Columns

|                         |    |       |        |        |        |
|-------------------------|----|-------|--------|--------|--------|
| 2500# or 3000# concrete |    |       |        |        |        |
| By crane .....          | CY | 0.873 | 190.00 | 120.00 | 310.00 |
| By pump .....           | CY | 0.800 | 190.00 | 110.00 | 300.00 |
| 3500# or 4000# concrete |    |       |        |        |        |
| By crane .....          | CY | 0.873 | 200.00 | 120.00 | 320.00 |
| By pump .....           | CY | 0.800 | 200.00 | 110.00 | 310.00 |

### **03310.03 ELEVATED SLAB CONCRETE**

#### ELEVATED SLAB CONCRETE

##### Elevated slab

|                         |    |       |        |       |        |
|-------------------------|----|-------|--------|-------|--------|
| 2500# or 3000# concrete |    |       |        |       |        |
| By crane .....          | CY | 0.480 | 190.00 | 64.00 | 254.00 |
| By pump .....           | CY | 0.369 | 190.00 | 49.50 | 239.50 |
| By hand buggy.....      | CY | 0.800 | 190.00 | 64.00 | 254.00 |

### **03310.04 EQUIPMENT PAD CONCRETE**

#### EQUIPMENT PAD CONCRETE

##### Equipment pad

|                         |    |       |        |        |        |
|-------------------------|----|-------|--------|--------|--------|
| 2500# or 3000# concrete |    |       |        |        |        |
| By chute .....          | CY | 0.267 | 190.00 | 21.25  | 211.25 |
| By pump .....           | CY | 0.686 | 190.00 | 92.00  | 282.00 |
| By crane .....          | CY | 0.800 | 190.00 | 110.00 | 300.00 |
| 3500# or 4000# concrete |    |       |        |        |        |
| By chute .....          | CY | 0.267 | 200.00 | 21.25  | 221.25 |
| By pump .....           | CY | 0.686 | 200.00 | 92.00  | 292.00 |

## DIVISION 03 CONCRETE

|                                     | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>03310.05 FOOTING CONCRETE</b>    |             |                |                 |              |              |
| FOOTING CONCRETE                    |             |                |                 |              |              |
| Continuous footing                  |             |                |                 |              |              |
| 2500# or 3000# concrete             |             |                |                 |              |              |
| By chute .....                      | CY          | 0.267          | 190.00          | 21.25        | 211.25       |
| By pump .....                       | CY          | 0.600          | 190.00          | 81.00        | 271.00       |
| By crane .....                      | CY          | 0.686          | 190.00          | 92.00        | 282.00       |
| Spread footing                      |             |                |                 |              |              |
| 2500# or 3000# concrete             |             |                |                 |              |              |
| By chute .....                      | CY          | 0.267          | 190.00          | 21.25        | 211.25       |
| By pump .....                       | CY          | 0.640          | 190.00          | 86.00        | 276.00       |
| By crane .....                      | CY          | 0.738          | 190.00          | 99.00        | 289.00       |
| <b>03310.06 GRADE BEAM CONCRETE</b> |             |                |                 |              |              |
| GRADE BEAM CONCRETE                 |             |                |                 |              |              |
| Grade beam                          |             |                |                 |              |              |
| 2500# or 3000# concrete             |             |                |                 |              |              |
| By chute .....                      | CY          | 0.267          | 190.00          | 21.25        | 211.25       |
| By crane .....                      | CY          | 0.686          | 190.00          | 92.00        | 282.00       |
| By pump .....                       | CY          | 0.600          | 190.00          | 81.00        | 271.00       |
| By hand buggy .....                 | CY          | 0.800          | 190.00          | 64.00        | 254.00       |
| 3500# or 4000# concrete             |             |                |                 |              |              |
| By chute .....                      | CY          | 0.267          | 200.00          | 21.25        | 221.25       |
| By crane .....                      | CY          | 0.686          | 200.00          | 92.00        | 292.00       |
| By pump .....                       | CY          | 0.600          | 200.00          | 81.00        | 281.00       |
| By hand buggy .....                 | CY          | 0.800          | 200.00          | 64.00        | 264.00       |
| <b>03310.07 PILE CAP CONCRETE</b>   |             |                |                 |              |              |
| PILE CAP CONCRETE                   |             |                |                 |              |              |
| Pile cap                            |             |                |                 |              |              |
| 2500# or 3000 concrete              |             |                |                 |              |              |
| By chute .....                      | CY          | 0.267          | 190.00          | 21.25        | 211.25       |
| By crane .....                      | CY          | 0.800          | 190.00          | 110.00       | 300.00       |
| By pump .....                       | CY          | 0.686          | 190.00          | 92.00        | 282.00       |
| By hand buggy .....                 | CY          | 0.800          | 190.00          | 64.00        | 254.00       |
| <b>03310.08 SLAB / MAT CONCRETE</b> |             |                |                 |              |              |
| SLAB / MAT CONCRETE                 |             |                |                 |              |              |
| Slab on grade                       |             |                |                 |              |              |
| 2500# or 3000# concrete             |             |                |                 |              |              |
| By chute .....                      | CY          | 0.200          | 190.00          | 16.00        | 206.00       |
| By crane .....                      | CY          | 0.400          | 190.00          | 54.00        | 244.00       |
| By pump .....                       | CY          | 0.343          | 190.00          | 46.00        | 236.00       |
| By hand buggy .....                 | CY          | 0.533          | 190.00          | 42.75        | 232.75       |
| <b>03310.09 WALL CONCRETE</b>       |             |                |                 |              |              |
| WALL CONCRETE                       |             |                |                 |              |              |
| Walls                               |             |                |                 |              |              |
| 2500# or 3000# concrete             |             |                |                 |              |              |
| To 4'                               |             |                |                 |              |              |
| By chute .....                      | CY          | 0.229          | 190.00          | 18.25        | 208.25       |
| By crane .....                      | CY          | 0.800          | 190.00          | 110.00       | 300.00       |
| By pump .....                       | CY          | 0.738          | 190.00          | 99.00        | 289.00       |
| To 8'                               |             |                |                 |              |              |
| By crane .....                      | CY          | 0.873          | 190.00          | 120.00       | 310.00       |
| By pump .....                       | CY          | 0.800          | 190.00          | 110.00       | 300.00       |
| Filled block (CMU)                  |             |                |                 |              |              |
| 3000# concrete, by pump             |             |                |                 |              |              |
| 4" wide .....                       | SF          | 0.034          | 2.39            | 4.60         | 6.99         |
| 6" wide .....                       | SF          | 0.040          | 3.57            | 5.37         | 8.94         |
| 8" wide .....                       | SF          | 0.048          | 4.80            | 6.44         | 11.24        |
| <b>03350.01 CONCRETE FINISHES</b>   |             |                |                 |              |              |
| CONCRETE FINISHES                   |             |                |                 |              |              |
| Floor finishes                      |             |                |                 |              |              |
| Broom .....                         | SF          | 0.011          | 0.91            | 0.91         | 0.91         |
| Screed .....                        | SF          | 0.010          | 0.80            | 0.80         | 0.80         |
| Darby .....                         | SF          | 0.010          | 0.80            | 0.80         | 0.80         |

## DIVISION 03 CONCRETE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>03350.01 CONCRETE FINISHES (Cont.)</b>  |             |                |                 |              |              |
| Floor finishes                             |             |                |                 |              |              |
| Steel float.....                           | SF          | 0.013          | .....           | 1.06         | ..... 1.06   |
| Wall finishes                              |             |                |                 |              |              |
| Burlap rub, with cement paste .....        | SF          | 0.013          | 0.16            | ..... 1.06   | ..... 1.22   |
| <b>03371.90 PNEUMATIC CONCRETE</b>         |             |                |                 |              |              |
| PNEUMATIC CONCRETE                         |             |                |                 |              |              |
| Pneumatic applied concrete (gunite)        |             |                |                 |              |              |
| 2" thick .....                             | SF          | 0.030          | 6.55            | 4.38         | ..... 10.93  |
| 3" thick .....                             | SF          | 0.040          | 8.04            | 5.85         | ..... 13.89  |
| 4" thick .....                             | SF          | 0.048          | 9.81            | 7.02         | ..... 16.83  |
| Finish surface                             |             |                |                 |              |              |
| Minimum .....                              | SF          | 0.040          | .....           | 4.09         | ..... 4.09   |
| Maximum .....                              | SF          | 0.080          | .....           | 8.18         | ..... 8.18   |
| <b>03372.10 CONCRETE DELIVERY SPECIALS</b> |             |                |                 |              |              |
| CONCRETE DELIVERY SPECIALS                 |             |                |                 |              |              |
| Small loads, up to 3 cubic yards           |             |                |                 |              |              |
| Minimum .....                              | CY          | .....          | 240.00          |              |              |
| Average .....                              | CY          | .....          | 250.00          |              |              |
| Maximum .....                              | CY          | .....          | 280.00          |              |              |
| 3 to 7 cubic yard deliveries               |             |                |                 |              |              |
| Minimum .....                              | CY          | .....          | 190.00          |              |              |
| Average .....                              | CY          | .....          | 200.00          |              |              |
| Maximum .....                              | CY          | .....          | 210.00          |              |              |
| <b>03390.01 CURING CONCRETE</b>            |             |                |                 |              |              |
| CURING CONCRETE                            |             |                |                 |              |              |
| Sprayed membrane                           |             |                |                 |              |              |
| Slabs .....                                | SF          | 0.002          | 0.15            | 0.12         | ..... 0.27   |
| Walls .....                                | SF          | 0.002          | 0.21            | 0.16         | ..... 0.37   |
| Curing paper                               |             |                |                 |              |              |
| Slabs .....                                | SF          | 0.002          | 0.16            | 0.16         | ..... 0.32   |
| Walls .....                                | SF          | 0.002          | 0.16            | 0.18         | ..... 0.34   |
| Burlap                                     |             |                |                 |              |              |
| 7.5 oz. ....                               | SF          | 0.003          | 0.18            | 0.21         | ..... 0.39   |
| 12 oz. ....                                | SF          | 0.003          | 0.24            | 0.22         | ..... 0.46   |
| <b>03480.01 PRECAST SPECIALTIES</b>        |             |                |                 |              |              |
| PRECAST SPECIALTIES                        |             |                |                 |              |              |
| Precast concrete, coping, 4' to 8' long    |             |                |                 |              |              |
| 12" wide .....                             | LF          | 0.060          | 13.25           | 8.77         | ..... 22.02  |
| 10" wide .....                             | LF          | 0.069          | 11.75           | 10.00        | ..... 21.75  |
| Splash block, 30"x12"x4"                   |             |                |                 |              |              |
| EA .....                                   | EA          | 0.400          | 20.00           | 59.00        | ..... 79.00  |
| Stair unit, per riser                      |             |                |                 |              |              |
| EA .....                                   | EA          | 0.400          | 130.00          | 59.00        | ..... 189.00 |
| Sun screen and trellis, 8' long, 12" high  |             |                |                 |              |              |
| 4" thick blades .....                      | EA          | 0.300          | 140.00          | 43.75        | ..... 183.75 |
| <b>03610.01 GROUTING</b>                   |             |                |                 |              |              |
| GROUTING                                   |             |                |                 |              |              |
| Grouting for bases                         |             |                |                 |              |              |
| Non-metallic grout                         |             |                |                 |              |              |
| 1" deep .....                              | SF          | 0.160          | 8.02            | 17.00        | ..... 25.02  |
| 2" deep .....                              | SF          | 0.178          | 15.25           | 19.00        | ..... 34.25  |
| Portland cement grout (1 cement to 3 sand) |             |                |                 |              |              |
| 1/2" joint thickness                       |             |                |                 |              |              |
| 6" wide joints .....                       | LF          | 0.027          | 0.27            | 2.85         | ..... 3.12   |
| 8" wide joints .....                       | LF          | 0.032          | 0.30            | 3.42         | ..... 3.72   |
| 1" joint thickness                         |             |                |                 |              |              |
| 4" wide joints .....                       | LF          | 0.025          | 0.30            | 2.67         | ..... 2.97   |
| 6" wide joints .....                       | LF          | 0.028          | 0.49            | 2.95         | ..... 3.44   |
| <b>03821.31 CORE DRILLING</b>              |             |                |                 |              |              |
| CORE DRILLING                              |             |                |                 |              |              |
| Concrete                                   |             |                |                 |              |              |
| 6" thick .....                             | EA          | 0.571          | .....           | 61.00        | ..... 61.00  |
| 3" dia. ....                               | EA          | .....          | .....           | .....        | .....        |

## DIVISION 03 CONCRETE

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|                                       | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>03821.31 CORE DRILLING (Cont.)</b> |             |                |                 |              |              |
| Concrete<br>8" thick<br>3" dia.       | EA          | 0.800          |                 | 86.00        | 86.00        |

## DIVISION 04 MASONRY

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>04012.01 RESTORATION AND CLEANING</b>          |             |                |                 |              |              |
| RESTORATION AND CLEANING                          |             |                |                 |              |              |
| Masonry cleaning                                  |             |                |                 |              |              |
| Washing brick                                     |             |                |                 |              |              |
| Smooth surface .....                              | SF          | 0.013          | 0.21            | 1.30         | 1.51         |
| Rough surface .....                               | SF          | 0.018          | 0.29            | 1.73         | 2.02         |
| Steam clean masonry                               |             |                |                 |              |              |
| Smooth face                                       |             |                |                 |              |              |
| Minimum .....                                     | SF          | 0.010          | 0.56            | 1.06         | 1.62         |
| Maximum .....                                     | SF          | 0.015          | 0.90            | 1.55         | 2.45         |
| Rough face  |             |                |                 |              |              |
| Minimum .....                                     | SF          | 0.013          | 0.82            | 1.42         | 2.24         |
| Maximum .....                                     | SF          | 0.020          | 1.21            | 2.13         | 3.34         |
| <b>04051.61 MASONRY GROUT</b>                     |             |                |                 |              |              |
| MASONRY GROUT                                     |             |                |                 |              |              |
| Grout, non-shrink, non-metallic, trowelable ..... | CF          | 0.016          | 5.35            | 2.34         | 7.69         |
| Grout door frame, hollow metal                    |             |                |                 |              |              |
| Single .....                                      | EA          | 0.600          | 13.50           | 88.00        | 101.50       |
| Double .....                                      | EA          | 0.632          | 18.75           | 92.00        | 110.75       |
| Grout-filled concrete block (CMU)                 |             |                |                 |              |              |
| 4" wide .....                                     | SF          | 0.020          | 0.35            | 2.92         | 3.27         |
| 6" wide .....                                     | SF          | 0.022          | 0.93            | 3.19         | 4.12         |
| 8" wide .....                                     | SF          | 0.024          | 1.38            | 3.51         | 4.89         |
| 12" wide .....                                    | SF          | 0.025          | 2.26            | 3.69         | 5.95         |
| Grout-filled individual CMU cells                 |             |                |                 |              |              |
| 4" wide .....                                     | LF          | 0.012          | 0.29            | 1.75         | 2.04         |
| 6" wide .....                                     | LF          | 0.012          | 0.40            | 1.75         | 2.15         |
| 8" wide .....                                     | LF          | 0.012          | 0.53            | 1.75         | 2.28         |
| 10" wide .....                                    | LF          | 0.014          | 0.66            | 2.00         | 2.66         |
| 12" wide .....                                    | LF          | 0.014          | 0.80            | 2.00         | 2.80         |
| Bond beams or lintels, 8" deep                    |             |                |                 |              |              |
| 6" thick .....                                    | LF          | 0.022          | 0.80            | 2.92         | 3.72         |
| 8" thick .....                                    | LF          | 0.024          | 1.07            | 3.22         | 4.29         |
| 10" thick .....                                   | LF          | 0.027          | 1.34            | 3.58         | 4.92         |
| 12" thick .....                                   | LF          | 0.030          | 1.60            | 4.02         | 5.62         |
| Cavity walls                                      |             |                |                 |              |              |
| 2" thick .....                                    | SF          | 0.032          | 0.89            | 4.29         | 5.18         |
| 3" thick .....                                    | SF          | 0.032          | 1.34            | 4.29         | 5.63         |
| 4" thick .....                                    | SF          | 0.034          | 1.78            | 4.60         | 6.38         |
| 6" thick .....                                    | SF          | 0.040          | 2.67            | 5.37         | 8.04         |
| <b>04052.31 MASONRY ACCESSORIES</b>               |             |                |                 |              |              |
| MASONRY ACCESSORIES                               |             |                |                 |              |              |
| Foundation vents .....                            | EA          | 0.320          | 32.25           | 31.25        | 63.50        |
| Bar reinforcing                                   |             |                |                 |              |              |
| Horizontal  |             |                |                 |              |              |
| #3 - #4 .....                                     | LB          | 0.032          | 0.63            | 3.12         | 3.75         |
| #5 - #6 .....                                     | LB          | 0.027          | 0.63            | 2.60         | 3.23         |
| Vertical  |             |                |                 |              |              |
| #3 - #4 .....                                     | LB          | 0.040          | 0.63            | 3.90         | 4.53         |
| #5 - #6 .....                                     | LB          | 0.032          | 0.63            | 3.12         | 3.75         |
| Horizontal joint reinforcing                      |             |                |                 |              |              |
| Truss type  |             |                |                 |              |              |
| 4" wide, 6" wall .....                            | LF          | 0.003          | 0.20            | 0.31         | 0.51         |
| 6" wide, 8" wall .....                            | LF          | 0.003          | 0.20            | 0.32         | 0.52         |
| 8" wide, 10" wall .....                           | LF          | 0.003          | 0.25            | 0.33         | 0.58         |
| 10" wide, 12" wall .....                          | LF          | 0.004          | 0.25            | 0.35         | 0.60         |
| 12" wide, 14" wall .....                          | LF          | 0.004          | 0.31            | 0.37         | 0.68         |
| Ladder type                                       |             |                |                 |              |              |
| 4" wide, 6" wall .....                            | LF          | 0.003          | 0.15            | 0.31         | 0.46         |
| 6" wide, 8" wall .....                            | LF          | 0.003          | 0.17            | 0.32         | 0.49         |
| 8" wide, 10" wall .....                           | LF          | 0.003          | 0.18            | 0.33         | 0.51         |
| 10" wide, 12" wall .....                          | LF          | 0.003          | 0.21            | 0.33         | 0.54         |

## DIVISION 04 MASONRY

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>04052.31 MASONRY ACCESSORIES (Cont.)</b>  |             |                |                 |              |              |
| Rectangular wall ties                        |             |                |                 |              |              |
| 3/16" dia., galvanized                       |             |                |                 |              |              |
| 2" x 6" .....                                | EA          | 0.013          | 0.38            | 1.30         | 1.68         |
| 2" x 8" .....                                | EA          | 0.013          | 0.41            | 1.30         | 1.71         |
| 2" x 10" .....                               | EA          | 0.013          | 0.47            | 1.30         | 1.77         |
| 2" x 12" .....                               | EA          | 0.013          | 0.53            | 1.30         | 1.83         |
| 4" x 6" .....                                | EA          | 0.016          | 0.43            | 1.56         | 1.99         |
| 4" x 8" .....                                | EA          | 0.016          | 0.49            | 1.56         | 2.05         |
| 4" x 10" .....                               | EA          | 0.016          | 0.64            | 1.56         | 2.20         |
| 4" x 12" .....                               | EA          | 0.016          | 0.73            | 1.56         | 2.29         |
| 1/4" dia., galvanized                        |             |                |                 |              |              |
| 2" x 6" .....                                | EA          | 0.013          | 0.71            | 1.30         | 2.01         |
| 2" x 8" .....                                | EA          | 0.013          | 0.80            | 1.30         | 2.10         |
| 2" x 10" .....                               | EA          | 0.013          | 0.90            | 1.30         | 2.20         |
| 2" x 12" .....                               | EA          | 0.013          | 1.04            | 1.30         | 2.34         |
| 4" x 6" .....                                | EA          | 0.016          | 0.82            | 1.56         | 2.38         |
| 4" x 8" .....                                | EA          | 0.016          | 0.90            | 1.56         | 2.46         |
| 4" x 10" .....                               | EA          | 0.016          | 1.04            | 1.56         | 2.60         |
| 4" x 12" .....                               | EA          | 0.016          | 1.09            | 1.56         | 2.65         |
| Z-type wall ties, galvanized                 |             |                |                 |              |              |
| 6" long                                      |             |                |                 |              |              |
| 1/8" dia. ....                               | EA          | 0.013          | 0.33            | 1.30         | 1.63         |
| 3/16" dia. ....                              | EA          | 0.013          | 0.36            | 1.30         | 1.66         |
| 1/4" dia. ....                               | EA          | 0.013          | 0.38            | 1.30         | 1.68         |
| 8" long                                      |             |                |                 |              |              |
| 1/8" dia. ....                               | EA          | 0.013          | 0.36            | 1.30         | 1.66         |
| 3/16" dia. ....                              | EA          | 0.013          | 0.38            | 1.30         | 1.68         |
| 1/4" dia. ....                               | EA          | 0.013          | 0.41            | 1.30         | 1.71         |
| 10" long                                     |             |                |                 |              |              |
| 1/8" dia. ....                               | EA          | 0.013          | 0.38            | 1.30         | 1.68         |
| 3/16" dia. ....                              | EA          | 0.013          | 0.43            | 1.30         | 1.73         |
| 1/4" dia. ....                               | EA          | 0.013          | 0.49            | 1.30         | 1.79         |
| Dovetail anchor slots                        |             |                |                 |              |              |
| Galvanized steel, filled                     |             |                |                 |              |              |
| 24 ga. ....                                  | LF          | 0.020          | 0.82            | 1.95         | 2.77         |
| 20 ga. ....                                  | LF          | 0.020          | 1.72            | 1.95         | 3.67         |
| 16 oz. copper, foam filled                   | LF          | 0.020          | 2.03            | 1.95         | 3.98         |
| Dovetail anchors                             |             |                |                 |              |              |
| 16 ga.                                       |             |                |                 |              |              |
| 3-1/2" long .....                            | EA          | 0.013          | 0.25            | 1.30         | 1.55         |
| 5-1/2" long .....                            | EA          | 0.013          | 0.30            | 1.30         | 1.60         |
| 12 ga.                                       |             |                |                 |              |              |
| 3-1/2" long .....                            | EA          | 0.013          | 0.33            | 1.30         | 1.63         |
| 5-1/2" long .....                            | EA          | 0.013          | 0.55            | 1.30         | 1.85         |
| Dovetail, triangular galvanized ties, 12 ga. |             |                |                 |              |              |
| 3" x 3" .....                                | EA          | 0.013          | 0.56            | 1.30         | 1.86         |
| 5" x 5" .....                                | EA          | 0.013          | 0.60            | 1.30         | 1.90         |
| 7" x 7" .....                                | EA          | 0.013          | 0.68            | 1.30         | 1.98         |
| 7" x 9" .....                                | EA          | 0.013          | 0.72            | 1.30         | 2.02         |
| Brick anchors                                |             |                |                 |              |              |
| Corrugated, 3-1/2" long                      |             |                |                 |              |              |
| 16 ga. ....                                  | EA          | 0.013          | 0.23            | 1.30         | 1.53         |
| 12 ga. ....                                  | EA          | 0.013          | 0.40            | 1.30         | 1.70         |
| Non-corrugated, 3-1/2" long                  |             |                |                 |              |              |
| 16 ga. ....                                  | EA          | 0.013          | 0.32            | 1.30         | 1.62         |
| 12 ga. ....                                  | EA          | 0.013          | 0.57            | 1.30         | 1.87         |
| Cavity wall anchors, corrugated, galvanized  |             |                |                 |              |              |
| 5" long                                      |             |                |                 |              |              |
| 16 ga. ....                                  | EA          | 0.013          | 0.71            | 1.30         | 2.01         |
| 12 ga. ....                                  | EA          | 0.013          | 1.06            | 1.30         | 2.36         |
| 7" long                                      |             |                |                 |              |              |
| 28 ga. ....                                  | EA          | 0.013          | 0.78            | 1.30         | 2.08         |
| 24 ga. ....                                  | EA          | 0.013          | 0.99            | 1.30         | 2.29         |
| 22 ga. ....                                  | EA          | 0.013          | 1.01            | 1.30         | 2.31         |

## DIVISION 04 MASONRY

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>04052.31 MASONRY ACCESSORIES (Cont.)</b> |             |                |                 |              |              |
| 7" long                                     |             |                |                 |              |              |
| 16 ga. ....                                 | EA          | 0.013          | 1.14            | 1.30         | 2.44         |
| Mesh ties, 16 ga., 3" wide                  |             |                |                 |              |              |
| 8" long ....                                | EA          | 0.013          | 0.95            | 1.30         | 2.25         |
| 12" long ....                               | EA          | 0.013          | 1.06            | 1.30         | 2.36         |
| 20" long ....                               | EA          | 0.013          | 1.46            | 1.30         | 2.76         |
| 24" long ....                               | EA          | 0.013          | 1.61            | 1.30         | 2.91         |

### **04052.32 MASONRY CONTROL JOINTS**

|                                      |    |       |      |      |      |
|--------------------------------------|----|-------|------|------|------|
| MASONRY CONTROL JOINTS               |    |       |      |      |      |
| Control joint, cross shaped PVC .... | LF | 0.020 | 2.17 | 1.95 | 4.12 |
| Closed cell joint filler             |    |       |      |      |      |
| 1/2" ....                            | LF | 0.020 | 0.38 | 1.95 | 2.33 |
| 3/4" ....                            | LF | 0.020 | 0.77 | 1.95 | 2.72 |
| Rubber, for                          |    |       |      |      |      |
| 4" wall ....                         | LF | 0.020 | 2.50 | 1.95 | 4.45 |
| PVC, for                             |    |       |      |      |      |
| 4" wall ....                         | LF | 0.020 | 1.30 | 1.95 | 3.25 |

### **04052.35 MASONRY FLASHING**

|                          |    |       |      |      |      |
|--------------------------|----|-------|------|------|------|
| MASONRY FLASHING         |    |       |      |      |      |
| Through-wall flashing    |    |       |      |      |      |
| 5 oz. coated copper .... | SF | 0.067 | 3.35 | 6.50 | 9.85 |
| 0.030" elastomeric ....  | SF | 0.053 | 1.10 | 5.20 | 6.30 |

### **04211.31 BRICK MASONRY**

|   |    |       |       |        |        |
|---|----|-------|-------|--------|--------|
| BRICK MASONRY                           |    |       |       |        |        |
| Standard size brick, running bond       |    |       |       |        |        |
| Face brick, red (6.4/sf)                |    |       |       |        |        |
| Veneer ....                             | SF | 0.133 | 5.65  | 13.00  | 18.65  |
| Cavity wall ....                        | SF | 0.114 | 5.65  | 11.25  | 16.90  |
| 9" solid wall ....                      | SF | 0.229 | 11.25 | 22.25  | 33.50  |
| Common brick (6.4/sf)                   |    |       |       |        |        |
| Select common for veneers ....          | SF | 0.133 | 3.69  | 13.00  | 16.69  |
| Back-up                                 |    |       |       |        |        |
| 4" thick ....                           | SF | 0.100 | 3.32  | 9.75   | 13.07  |
| 8" thick ....                           | SF | 0.160 | 6.65  | 15.50  | 22.15  |
| Glazed brick (7.4/sf)                   |    |       |       |        |        |
| Veneer ....                             | SF | 0.145 | 15.25 | 14.25  | 29.50  |
| Buff or gray face brick (6.4/sf)        |    |       |       |        |        |
| Veneer ....                             | SF | 0.133 | 6.58  | 13.00  | 19.58  |
| Cavity wall ....                        | SF | 0.114 | 6.58  | 11.25  | 17.83  |
| Jumbo or oversize brick (3/sf)          |    |       |       |        |        |
| 4" veneer ....                          | SF | 0.080 | 4.33  | 7.80   | 12.13  |
| 4" back-up ....                         | SF | 0.067 | 4.33  | 6.50   | 10.83  |
| 8" back-up ....                         | SF | 0.114 | 5.02  | 11.25  | 16.27  |
| Norman brick, red face (4.5/sf)         |    |       |       |        |        |
| 4" veneer ....                          | SF | 0.100 | 6.23  | 9.75   | 15.98  |
| Cavity wall ....                        | SF | 0.089 | 6.23  | 8.67   | 14.90  |
| Chimney, standard brick, including flue |    |       |       |        |        |
| 16" x 16" ....                          | LF | 0.800 | 26.75 | 78.00  | 104.75 |
| 16" x 20" ....                          | LF | 0.800 | 45.00 | 78.00  | 123.00 |
| 16" x 24" ....                          | LF | 0.800 | 48.00 | 78.00  | 126.00 |
| 20" x 20" ....                          | LF | 1.000 | 37.50 | 98.00  | 135.50 |
| 20" x 24" ....                          | LF | 1.000 | 51.00 | 98.00  | 149.00 |
| 20" x 32" ....                          | LF | 1.143 | 57.00 | 110.00 | 167.00 |
| Window sill, face brick on edge ....    | LF | 0.200 | 3.11  | 19.50  | 22.61  |

### **04220.01 CONCRETE MASONRY UNITS**

|                        |    |       |      |      |       |
|------------------------|----|-------|------|------|-------|
| CONCRETE MASONRY UNITS |    |       |      |      |       |
| Hollow, load bearing   |    |       |      |      |       |
| 4" ....                | SF | 0.059 | 1.63 | 5.78 | 7.41  |
| 6" ....                | SF | 0.062 | 2.38 | 6.00 | 8.38  |
| 8" ....                | SF | 0.067 | 2.73 | 6.50 | 9.23  |
| 10" ....               | SF | 0.073 | 3.78 | 7.09 | 10.87 |
| 12" ....               | SF | 0.080 | 4.34 | 7.80 | 12.14 |

## DIVISION 04 MASONRY

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>04220.01 CONCRETE MASONRY UNITS (Cont.)</b>    |             |                |                 |              |              |
| Solid, load bearing                               |             |                |                 |              |              |
| 4" .....  | SF          | 0.059          | 2.55            | 5.78         | 8.33         |
| 6" .....  | SF          | 0.062          | 2.86            | 6.00         | 8.86         |
| 8" .....  | SF          | 0.067          | 3.91            | 6.50         | 10.41        |
| 10" .....   | SF          | 0.073          | 4.17            | 7.09         | 11.26        |
| 12" .....   | SF          | 0.080          | 6.19            | 7.80         | 13.99        |
| Back-up block, 8" x 16"                           |             |                |                 |              |              |
| 2" .....  | SF          | 0.046          | 1.71            | 4.45         | 6.16         |
| 4" .....  | SF          | 0.047          | 1.78            | 4.59         | 6.37         |
| 6" .....  | SF          | 0.050          | 2.61            | 4.87         | 7.48         |
| 8" .....  | SF          | 0.053          | 2.99            | 5.20         | 8.19         |
| 10" .....   | SF          | 0.057          | 4.13            | 5.57         | 9.70         |
| 12" .....   | SF          | 0.062          | 4.75            | 6.00         | 10.75        |
| Foundation wall, 8" x 16"                         |             |                |                 |              |              |
| 6" .....  | SF          | 0.057          | 2.60            | 5.57         | 8.17         |
| 8" .....  | SF          | 0.062          | 2.99            | 6.00         | 8.99         |
| 10" .....   | SF          | 0.067          | 4.13            | 6.50         | 10.63        |
| 12" .....   | SF          | 0.073          | 4.75            | 7.09         | 11.84        |
| Solid   |             |                |                 |              |              |
| 6" .....  | SF          | 0.062          | 3.14            | 6.00         | 9.14         |
| 8" .....  | SF          | 0.067          | 4.29            | 6.50         | 10.79        |
| 10" .....   | SF          | 0.073          | 4.57            | 7.09         | 11.66        |
| 12" .....   | SF          | 0.080          | 6.79            | 7.80         | 14.59        |
| Exterior, styrofoam inserts, std weight, 8" x 16" |             |                |                 |              |              |
| 6" .....  | SF          | 0.062          | 4.57            | 6.00         | 10.57        |
| 8" .....  | SF          | 0.067          | 4.94            | 6.50         | 11.44        |
| 10" .....   | SF          | 0.073          | 6.39            | 7.09         | 13.48        |
| 12" .....   | SF          | 0.080          | 8.77            | 7.80         | 16.57        |
| Lightweight                                       |             |                |                 |              |              |
| 6" .....  | SF          | 0.062          | 5.09            | 6.00         | 11.09        |
| 8" .....  | SF          | 0.067          | 5.73            | 6.50         | 12.23        |
| 10" .....   | SF          | 0.073          | 6.09            | 7.09         | 13.18        |
| 12" .....   | SF          | 0.080          | 8.04            | 7.80         | 15.84        |
| Acoustical slotted block                          |             |                |                 |              |              |
| 4" .....  | SF          | 0.073          | 5.30            | 7.09         | 12.39        |
| 6" .....  | SF          | 0.073          | 5.56            | 7.09         | 12.65        |
| 8" .....  | SF          | 0.080          | 6.94            | 7.80         | 14.74        |
| Filled cavities                                   |             |                |                 |              |              |
| 4" .....  | SF          | 0.089          | 5.68            | 8.67         | 14.35        |
| 6" .....  | SF          | 0.094          | 6.56            | 9.18         | 15.74        |
| 8" .....  | SF          | 0.100          | 8.40            | 9.75         | 18.15        |
| Hollow, split face                                |             |                |                 |              |              |
| 4" .....  | SF          | 0.059          | 3.63            | 5.78         | 9.41         |
| 6" .....  | SF          | 0.062          | 4.21            | 6.00         | 10.21        |
| 8" .....  | SF          | 0.067          | 4.42            | 6.50         | 10.92        |
| 10" .....   | SF          | 0.073          | 4.95            | 7.09         | 12.04        |
| 12" .....   | SF          | 0.080          | 5.28            | 7.80         | 13.08        |
| Split rib profile                                 |             |                |                 |              |              |
| 4" .....  | SF          | 0.073          | 4.42            | 7.09         | 11.51        |
| 6" .....  | SF          | 0.073          | 5.13            | 7.09         | 12.22        |
| 8" .....  | SF          | 0.080          | 5.59            | 7.80         | 13.39        |
| 10" .....   | SF          | 0.080          | 6.11            | 7.80         | 13.91        |
| 12" .....   | SF          | 0.080          | 6.63            | 7.80         | 14.43        |
| Solar screen concrete block                       |             |                |                 |              |              |
| 4" thick  |             |                |                 |              |              |
| 6" x 6" .....                                     | SF          | 0.178          | 4.09            | 17.25        | 21.34        |
| 8" x 8" .....                                     | SF          | 0.160          | 4.88            | 15.50        | 20.38        |
| 12" x 12" .....                                   | SF          | 0.123          | 5.00            | 12.00        | 17.00        |
| 8" thick  |             |                |                 |              |              |
| 8" x 16" .....                                    | SF          | 0.114          | 5.00            | 11.25        | 16.25        |
| Vertical reinforcing                              |             |                |                 |              |              |
| 4' o.c., add 5% to labor                          |             |                |                 |              |              |
| 2'8" o.c., add 15% to labor                       |             |                |                 |              |              |
| Interior partitions, add 10% to labor             |             |                |                 |              |              |

## DIVISION 04 MASONRY

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>04220.09 BOND BEAMS &amp; LINTELS</b>       |             |                |                 |              |              |
| BOND BEAMS & LINTELS                           |             |                |                 |              |              |
| Bond beam, no grout or reinforcement           |             |                |                 |              |              |
| 8" x 16" x                                     |             |                |                 |              |              |
| 4" thick .....                                 | LF          | 0.062          | 1.54            | 6.00         | 7.54         |
| 6" thick .....                                 | LF          | 0.064          | 2.35            | 6.24         | 8.59         |
| 8" thick .....                                 | LF          | 0.067          | 2.69            | 6.50         | 9.19         |
| 10" thick .....                                | LF          | 0.070          | 3.33            | 6.78         | 10.11        |
| 12" thick .....                                | LF          | 0.073          | 3.78            | 7.09         | 10.87        |
| Beam lintel, no grout or reinforcement         |             |                |                 |              |              |
| 8" x 16" x                                     |             |                |                 |              |              |
| 10" thick .....                                | LF          | 0.080          | 6.16            | 7.80         | 13.96        |
| 12" thick .....                                | LF          | 0.089          | 7.82            | 8.67         | 16.49        |
| Precast masonry lintel                         |             |                |                 |              |              |
| 6 lf, 8" high x                                |             |                |                 |              |              |
| 4" thick .....                                 | LF          | 0.133          | 5.63            | 13.00        | 18.63        |
| 6" thick .....                                 | LF          | 0.133          | 7.19            | 13.00        | 20.19        |
| 8" thick .....                                 | LF          | 0.145          | 8.14            | 14.25        | 22.39        |
| 10" thick .....                                | LF          | 0.145          | 9.71            | 14.25        | 23.96        |
| 10 lf, 8" high x                               |             |                |                 |              |              |
| 4" thick .....                                 | LF          | 0.080          | 7.08            | 7.80         | 14.88        |
| 6" thick .....                                 | LF          | 0.080          | 8.73            | 7.80         | 16.53        |
| 8" thick .....                                 | LF          | 0.089          | 9.71            | 8.67         | 18.38        |
| 10" thick .....                                | LF          | 0.089          | 13.25           | 8.67         | 21.92        |
| Steel angles and plates                        |             |                |                 |              |              |
| Minimum .....                                  | LB          | 0.011          | 1.15            | 1.11         | 2.26         |
| Maximum .....                                  | LB          | 0.020          | 1.69            | 1.95         | 3.64         |
| Various size angle lintels                     |             |                |                 |              |              |
| 1/4" stock                                     |             |                |                 |              |              |
| 3" x 3" .....                                  | LF          | 0.050          | 5.94            | 4.87         | 10.81        |
| 3" x 3-1/2" .....                              | LF          | 0.050          | 6.54            | 4.87         | 11.41        |
| 3/8" stock                                     |             |                |                 |              |              |
| 3" x 4" .....                                  | LF          | 0.050          | 10.25           | 4.87         | 15.12        |
| 3-1/2" x 4" .....                              | LF          | 0.050          | 10.75           | 4.87         | 15.62        |
| 4" x 4" .....                                  | LF          | 0.050          | 12.00           | 4.87         | 16.87        |
| 5" x 3-1/2" .....                              | LF          | 0.050          | 12.50           | 4.87         | 17.37        |
| 6" x 3-1/2" .....                              | LF          | 0.050          | 14.25           | 4.87         | 19.12        |
| 1/2" stock                                     |             |                |                 |              |              |
| 6" x 4" .....                                  | LF          | 0.050          | 15.75           | 4.87         | 20.62        |
| <b>04230.01 GLASS BLOCK</b>                    |             |                |                 |              |              |
| GLASS BLOCK                                    |             |                |                 |              |              |
| Glass block, 4" thick                          |             |                |                 |              |              |
| 6" x 6" .....                                  | SF          | 0.267          | 30.25           | 26.00        | 56.25        |
| 8" x 8" .....                                  | SF          | 0.200          | 19.00           | 19.50        | 38.50        |
| 12" x 12" .....                                | SF          | 0.160          | 24.25           | 15.50        | 39.75        |
| <b>04430.01 STONE</b>                          |             |                |                 |              |              |
| STONE  |             |                |                 |              |              |
| Rubble stone                                   |             |                |                 |              |              |
| Walls set in mortar                            |             |                |                 |              |              |
| 8" thick .....                                 | SF          | 0.200          | 15.50           | 19.50        | 35.00        |
| 12" thick .....                                | SF          | 0.320          | 18.75           | 31.25        | 50.00        |
| 18" thick .....                                | SF          | 0.400          | 24.75           | 39.00        | 63.75        |
| 24" thick .....                                | SF          | 0.533          | 31.00           | 52.00        | 83.00        |
| Dry set wall                                   |             |                |                 |              |              |
| 8" thick .....                                 | SF          | 0.133          | 17.50           | 13.00        | 30.50        |
| 12" thick .....                                | SF          | 0.200          | 19.75           | 19.50        | 39.25        |
| 18" thick .....                                | SF          | 0.267          | 27.25           | 26.00        | 53.25        |
| 24" thick .....                                | SF          | 0.320          | 33.25           | 31.25        | 64.50        |
| Thresholds, 7/8" thick, 3' long, 4" to 6" wide |             |                |                 |              |              |
| Plain .....                                    | EA          | 0.667          | 28.00           | 65.00        | 93.00        |
| Beveled .....                                  | EA          | 0.667          | 30.75           | 65.00        | 95.75        |
| Window sill                                    |             |                |                 |              |              |
| 6" wide, 2" thick .....                        | LF          | 0.320          | 15.50           | 31.25        | 46.75        |
| Stools   |             |                |                 |              |              |
| 5" wide, 7/8" thick .....                      | LF          | 0.320          | 23.00           | 31.25        | 54.25        |

## DIVISION 04 MASONRY

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>04430.01 STONE (Cont.)</b>          |             |                |                 |              |              |
| Rubble stone                           |             |                |                 |              |              |
| Granite veneer facing panels, polished |             |                |                 |              |              |
| 7/8" thick                             |             |                |                 |              |              |
| Black .....                            | SF .....    | 0.320 .....    | 52.00 .....     | 31.25 .....  | 83.25        |
| Gray .....                             | SF .....    | 0.320 .....    | 41.00 .....     | 31.25 .....  | 72.25        |
| Slate, panels                          |             |                |                 |              |              |
| 1" thick .....                         | SF .....    | 0.320 .....    | 25.75 .....     | 31.25 .....  | 57.00        |
| Sills or stools                        |             |                |                 |              |              |
| 1" thick                               |             |                |                 |              |              |
| 6" wide .....                          | LF .....    | 0.320 .....    | 12.00 .....     | 31.25 .....  | 43.25        |
| 10" wide .....                         | LF .....    | 0.348 .....    | 19.50 .....     | 34.00 .....  | 53.50        |

## **04510.01 FLUE LINERS**

### FLUE LINERS

|                 |          |             |             |             |       |
|-----------------|----------|-------------|-------------|-------------|-------|
| Flue liners     |          |             |             |             |       |
| Rectangular     |          |             |             |             |       |
| 8" x 12" .....  | LF ..... | 0.133 ..... | 7.91 .....  | 13.00 ..... | 20.91 |
| 12" x 12" ..... | LF ..... | 0.145 ..... | 9.87 .....  | 14.25 ..... | 24.12 |
| 12" x 18" ..... | LF ..... | 0.160 ..... | 17.50 ..... | 15.50 ..... | 33.00 |
| 16" x 16" ..... | LF ..... | 0.178 ..... | 18.75 ..... | 17.25 ..... | 36.00 |
| 18" x 18" ..... | LF ..... | 0.190 ..... | 23.25 ..... | 18.50 ..... | 41.75 |
| 20" x 20" ..... | LF ..... | 0.200 ..... | 38.75 ..... | 19.50 ..... | 58.25 |
| 24" x 24" ..... | LF ..... | 0.229 ..... | 46.50 ..... | 22.25 ..... | 68.75 |
| Round           |          |             |             |             |       |
| 18" dia. .....  | LF ..... | 0.190 ..... | 35.75 ..... | 18.50 ..... | 54.25 |
| 24" dia. .....  | LF ..... | 0.229 ..... | 71.00 ..... | 22.25 ..... | 93.25 |

## DIVISION 05 METALS

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>05052.31 STRUCTURAL WELDING</b>               |             |                |                 |              |              |
| STRUCTURAL WELDING                               |             |                |                 |              |              |
| Welding  |             |                |                 |              |              |
| Single pass                                      |             |                |                 |              |              |
| 1/8"   | LF          | 0.040          | 0.46            | 4.14         | 4.60         |
| 3/16"  | LF          | 0.053          | 0.76            | 5.52         | 6.28         |
| 1/4"   | LF          | 0.067          | 1.07            | 6.90         | 7.97         |
| <b>05052.39 METAL FASTENINGS</b>                 |             |                |                 |              |              |
| METAL FASTENINGS                                 |             |                |                 |              |              |
| Anchor bolts, material only                      |             |                |                 |              |              |
| 3/8" x   |             |                |                 |              |              |
| 8" long  | EA          |                |                 |              | 1.77         |
| 12" long   | EA          |                |                 |              | 2.56         |
| 1/2" x   |             |                |                 |              |              |
| 8" long  | EA          |                |                 |              | 2.79         |
| 12" long   | EA          |                |                 |              | 3.61         |
| 5/8" x   |             |                |                 |              |              |
| 8" long  | EA          |                |                 |              | 5.53         |
| 12" long   | EA          |                |                 |              | 6.82         |
| 3/4" x   |             |                |                 |              |              |
| 8" long  | EA          |                |                 |              | 6.76         |
| 12" long   | EA          |                |                 |              | 9.67         |
| Non-drilling anchor                              |             |                |                 |              |              |
| 1/4"   | EA          |                |                 |              | 0.90         |
| 3/8"   | EA          |                |                 |              | 1.12         |
| 1/2"   | EA          |                |                 |              | 1.72         |
| Self-drilling anchor                             |             |                |                 |              |              |
| 1/4"   | EA          |                |                 |              | 2.27         |
| 3/8"   | EA          |                |                 |              | 3.41         |
| 1/2"   | EA          |                |                 |              | 4.55         |
| <b>05052.40 METAL LINTELS</b>                    |             |                |                 |              |              |
| METAL LINTELS                                    |             |                |                 |              |              |
| Lintels, steel                                   |             |                |                 |              |              |
| Plain  | LB          | 0.020          | 2.09            | 2.07         | 4.16         |
| Galvanized                                       | LB          | 0.020          | 2.54            | 2.07         | 4.61         |
| <b>05120.01 BEAMS, GIRDERS, COLUMNS, TRUSSES</b> |             |                |                 |              |              |
| BEAMS, GIRDERS, COLUMNS, TRUSSES                 |             |                |                 |              |              |
| Beams and girders, A-36                          |             |                |                 |              |              |
| Welded   | TON         | 4.800          | 4,190.00        | 1,060.00     | 5,250.00     |
| Bolted   | TON         | 4.364          | 4,070.00        | 960.00       | 5,030.00     |
| Columns  |             |                |                 |              |              |
| Pipe   |             |                |                 |              |              |
| 6" dia.  | LB          | 0.005          | 2.14            | 1.06         | 3.20         |
| Structural tube                                  |             |                |                 |              |              |
| 6" square  |             |                |                 |              |              |
| Light sections                                   | TON         | 9.600          | 4,990.00        | 2,120.00     | 7,110.00     |
| <b>05410.01 METAL FRAMING</b>                    |             |                |                 |              |              |
| METAL FRAMING                                    |             |                |                 |              |              |
| Furring channel, galvanized                      |             |                |                 |              |              |
| Beams and columns, 3/4"                          |             |                |                 |              |              |
| 12" o.c.   | SF          | 0.080          | 0.51            | 8.28         | 8.79         |
| 16" o.c.   | SF          | 0.073          | 0.39            | 7.52         | 7.91         |
| Walls, 3/4"                                      |             |                |                 |              |              |
| 12" o.c.   | SF          | 0.040          | 0.51            | 4.14         | 4.65         |
| 16" o.c.   | SF          | 0.033          | 0.39            | 3.45         | 3.84         |
| 24" o.c.   | SF          | 0.027          | 0.28            | 2.76         | 3.04         |
| 1-1/2"   |             |                |                 |              |              |
| 12" o.c.   | SF          | 0.040          | 0.84            | 4.14         | 4.98         |
| 16" o.c.   | SF          | 0.033          | 0.64            | 3.45         | 4.09         |
| 24" o.c.   | SF          | 0.027          | 0.43            | 2.76         | 3.19         |

## DIVISION 05 METALS

|                                       | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>05410.01 METAL FRAMING (Cont.)</b> |             |                |                 |              |              |
| Stud, load bearing                    |             |                |                 |              |              |
| 16" o.c.                              |             |                |                 |              |              |
| 12 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.036          | 1.89            | 3.68         | 5.57         |
| 3-5/8"                                | SF          | 0.036          | 2.23            | 3.68         | 5.91         |
| 4"                                    | SF          | 0.036          | 2.34            | 3.68         | 6.02         |
| 6"                                    | SF          | 0.040          | 2.91            | 4.14         | 7.05         |
| 8"                                    | SF          | 0.040          | 3.55            | 4.14         | 7.69         |
| 12"                                   | SF          | 0.044          | 4.69            | 4.60         | 9.29         |
| 14 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.036          | 1.55            | 3.68         | 5.23         |
| 3-5/8"                                | SF          | 0.036          | 1.83            | 3.68         | 5.51         |
| 4"                                    | SF          | 0.036          | 1.92            | 3.68         | 5.60         |
| 6"                                    | SF          | 0.040          | 2.39            | 4.14         | 6.53         |
| 8"                                    | SF          | 0.040          | 2.91            | 4.14         | 7.05         |
| 12"                                   | SF          | 0.044          | 3.84            | 4.60         | 8.44         |
| 16 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.036          | 1.41            | 3.68         | 5.09         |
| 3-5/8"                                | SF          | 0.036          | 1.66            | 3.68         | 5.34         |
| 4"                                    | SF          | 0.036          | 1.73            | 3.68         | 5.41         |
| 6"                                    | SF          | 0.040          | 2.18            | 4.14         | 6.32         |
| 8"                                    | SF          | 0.040          | 2.79            | 4.14         | 6.93         |
| 12"                                   | SF          | 0.044          | 3.49            | 4.60         | 8.09         |
| 18 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.036          | 1.15            | 3.68         | 4.83         |
| 3-5/8"                                | SF          | 0.036          | 1.41            | 3.68         | 5.09         |
| 4"                                    | SF          | 0.036          | 1.48            | 3.68         | 5.16         |
| 6"                                    | SF          | 0.040          | 1.86            | 4.14         | 6.00         |
| 8"                                    | SF          | 0.040          | 2.25            | 4.14         | 6.39         |
| 12"                                   | SF          | 0.044          | 2.79            | 4.60         | 7.39         |
| 20 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.036          | 0.76            | 3.68         | 4.44         |
| 3-5/8"                                | SF          | 0.036          | 0.92            | 3.68         | 4.60         |
| 4"                                    | SF          | 0.036          | 1.00            | 3.68         | 4.68         |
| 6"                                    | SF          | 0.040          | 1.23            | 4.14         | 5.37         |
| 8"                                    | SF          | 0.040          | 1.46            | 4.14         | 5.60         |
| 12"                                   | SF          | 0.044          | 1.74            | 4.60         | 6.34         |
| 24" o.c.                              |             |                |                 |              |              |
| 12 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.031          | 1.32            | 3.18         | 4.50         |
| 3-5/8"                                | SF          | 0.031          | 1.56            | 3.18         | 4.74         |
| 4"                                    | SF          | 0.031          | 1.64            | 3.18         | 4.82         |
| 6"                                    | SF          | 0.033          | 2.04            | 3.45         | 5.49         |
| 8"                                    | SF          | 0.033          | 2.48            | 3.45         | 5.93         |
| 12"                                   | SF          | 0.036          | 3.28            | 3.76         | 7.04         |
| 14 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.031          | 1.08            | 3.18         | 4.26         |
| 3-5/8"                                | SF          | 0.031          | 1.28            | 3.18         | 4.46         |
| 4"                                    | SF          | 0.031          | 1.34            | 3.18         | 4.52         |
| 6"                                    | SF          | 0.033          | 1.67            | 3.45         | 5.12         |
| 8"                                    | SF          | 0.033          | 2.04            | 3.45         | 5.49         |
| 12"                                   | SF          | 0.036          | 2.69            | 3.76         | 6.45         |
| 16 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.031          | 0.96            | 3.18         | 4.14         |
| 3-5/8"                                | SF          | 0.031          | 1.15            | 3.18         | 4.33         |
| 4"                                    | SF          | 0.031          | 1.22            | 3.18         | 4.40         |
| 6"                                    | SF          | 0.033          | 1.48            | 3.45         | 4.93         |
| 8"                                    | SF          | 0.033          | 1.86            | 3.45         | 5.31         |
| 12"                                   | SF          | 0.036          | 1.86            | 3.76         | 5.62         |
| 18 ga.                                |             |                |                 |              |              |
| 2-1/2"                                | SF          | 0.031          | 0.76            | 3.18         | 3.94         |
| 3-5/8"                                | SF          | 0.031          | 0.89            | 3.18         | 4.07         |
| 4"                                    | SF          | 0.031          | 0.96            | 3.18         | 4.14         |
| 6"                                    | SF          | 0.033          | 1.22            | 3.45         | 4.67         |

## DIVISION 05 METALS

|                                       | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>05410.01 METAL FRAMING (Cont.)</b> |             |                |                 |              |              |
| 18 ga.                                |             |                |                 |              |              |
| 8" .....                              | SF          | 0.033          | 1.48            | 3.45         | 4.93         |
| 12" .....                             | SF          | 0.036          | 1.48            | 3.76         | 5.24         |
| 20 ga.                                |             |                |                 |              |              |
| 2-1/2" .....                          | SF          | 0.031          | 0.48            | 3.18         | 3.66         |
| 3-5/8" .....                          | SF          | 0.031          | 0.55            | 3.18         | 3.73         |
| 4" .....                              | SF          | 0.031          | 0.61            | 3.18         | 3.79         |
| 6" .....                              | SF          | 0.033          | 0.79            | 3.45         | 4.24         |
| 8" .....                              | SF          | 0.033          | 0.97            | 3.45         | 4.42         |
| 12" .....                             | SF          | 0.036          | 0.97            | 3.76         | 4.73         |
| Track, load bearing, 12 ga.           |             |                |                 |              |              |
| 2-1/2" .....                          | LF          | 0.012          | 1.89            | 1.27         | 3.16         |
| 3-5/8" .....                          | LF          | 0.012          | 2.23            | 1.27         | 3.50         |
| 4" .....                              | LF          | 0.012          | 2.34            | 1.27         | 3.61         |
| 6" .....                              | LF          | 0.013          | 2.91            | 1.31         | 4.22         |
| 8" .....                              | LF          | 0.013          | 3.55            | 1.31         | 4.86         |
| 12" .....                             | LF          | 0.013          | 4.69            | 1.35         | 6.04         |
| 14 ga.                                |             |                |                 |              |              |
| 2-1/2" .....                          | LF          | 0.012          | 1.55            | 1.27         | 2.82         |
| 3-5/8" .....                          | LF          | 0.012          | 1.83            | 1.27         | 3.10         |
| 4" .....                              | LF          | 0.012          | 1.92            | 1.27         | 3.19         |
| 6" .....                              | LF          | 0.013          | 2.39            | 1.31         | 3.70         |
| 8" .....                              | LF          | 0.013          | 2.91            | 1.31         | 4.22         |
| 12" .....                             | LF          | 0.013          | 3.84            | 1.35         | 5.19         |
| 16 ga.                                |             |                |                 |              |              |
| 2-1/2" .....                          | LF          | 0.012          | 1.41            | 1.27         | 2.68         |
| 3-5/8" .....                          | LF          | 0.012          | 1.66            | 1.27         | 2.93         |
| 4" .....                              | LF          | 0.012          | 1.73            | 1.27         | 3.00         |
| 6" .....                              | LF          | 0.013          | 2.18            | 1.31         | 3.49         |
| 8" .....                              | LF          | 0.013          | 2.79            | 1.31         | 4.10         |
| 12" .....                             | LF          | 0.013          | 3.49            | 1.35         | 4.84         |
| 18 ga.                                |             |                |                 |              |              |
| 2-1/2" .....                          | LF          | 0.012          | 1.15            | 1.27         | 2.42         |
| 3-5/8" .....                          | LF          | 0.012          | 1.41            | 1.27         | 2.68         |
| 4" .....                              | LF          | 0.012          | 1.48            | 1.27         | 2.75         |
| 6" .....                              | LF          | 0.013          | 1.86            | 1.31         | 3.17         |
| 8" .....                              | LF          | 0.013          | 2.25            | 1.31         | 3.56         |
| 12" .....                             | LF          | 0.013          | 2.79            | 1.35         | 4.14         |
| 20 ga.                                |             |                |                 |              |              |
| 2-1/2" .....                          | LF          | 0.012          | 0.76            | 1.27         | 2.03         |
| 3-5/8" .....                          | LF          | 0.012          | 0.92            | 1.27         | 2.19         |
| 4" .....                              | LF          | 0.012          | 1.00            | 1.27         | 2.27         |
| 6" .....                              | LF          | 0.013          | 1.23            | 1.31         | 2.54         |
| 8" .....                              | LF          | 0.013          | 1.46            | 1.31         | 2.77         |
| 12" .....                             | LF          | 0.013          | 1.74            | 1.35         | 3.09         |

## **05521.31 RAILINGS**

### RAILINGS

#### Railing, pipe

1-1/4" diameter, welded steel

##### 2-rail

|                 |    |       |       |       |       |
|-----------------|----|-------|-------|-------|-------|
| Primed .....    | LF | 0.160 | 43.75 | 16.50 | 60.25 |
| Galvanized..... | LF | 0.160 | 56.00 | 16.50 | 72.50 |

##### 3-rail

|                 |    |       |       |       |       |
|-----------------|----|-------|-------|-------|-------|
| Primed .....    | LF | 0.200 | 56.00 | 20.75 | 76.75 |
| Galvanized..... | LF | 0.200 | 73.00 | 20.75 | 93.75 |

#### Wall mounted, single rail, welded steel

|                 |    |       |       |       |       |
|-----------------|----|-------|-------|-------|-------|
| Primed .....    | LF | 0.123 | 29.25 | 12.75 | 42.00 |
| Galvanized..... | LF | 0.123 | 38.00 | 12.75 | 50.75 |

#### 1-1/2" diameter, welded steel

##### 2-rail

|                 |    |       |       |       |       |
|-----------------|----|-------|-------|-------|-------|
| Primed .....    | LF | 0.160 | 47.50 | 16.50 | 64.00 |
| Galvanized..... | LF | 0.160 | 62.00 | 16.50 | 78.50 |

## DIVISION 05 METALS

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>05521.31 RAILINGS (Cont.)</b>                 |             |                |                 |              |              |
| 1-1/2" diameter, welded steel                    |             |                |                 |              |              |
| 3-rail   |             |                |                 |              |              |
| Primed .....                                     | LF          | 0.200          | 60.00           | 20.75        | 80.75        |
| Galvanized .....                                 | LF          | 0.200          | 78.00           | 20.75        | 98.75        |
| <b>05730.01 ORNAMENTAL METAL</b>                 |             |                |                 |              |              |
| ORNAMENTAL METAL                                 |             |                |                 |              |              |
| Railings, square bars, 6" o.c., shaped top rails |             |                |                 |              |              |
| Steel .....                                      | LF          | 0.400          | 99.00           | 41.50        | 140.50       |
| Aluminum .....                                   | LF          | 0.400          | 120.00          | 41.50        | 161.50       |
| Bronze .....                                     | LF          | 0.533          | 250.00          | 55.00        | 305.00       |
| Stainless steel .....                            | LF          | 0.533          | 250.00          | 55.00        | 305.00       |
| Laminated metal or wood handrails                |             |                |                 |              |              |
| 2-1/2" round or oval shape .....                 | LF          | 0.400          | 290.00          | 41.50        | 331.50       |

## DIVISION 06 WOOD AND PLASTICS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>06052.31 ACCESSORIES</b>                     |             |                |                 |              |              |
| ACCESSORIES                                     |             |                |                 |              |              |
| Column/post base, cast aluminum                 |             |                |                 |              |              |
| 4" x 4" .....                                   | EA          | 0.200          | 20.75           | 20.50        | 41.25        |
| 6" x 6" .....                                   | EA          | 0.200          | 29.00           | 20.50        | 49.50        |
| Bridging, metal, per pair                       |             |                |                 |              |              |
| 12" o.c. ....                                   | EA          | 0.080          | 2.92            | 8.18         | 11.10        |
| 16" o.c. ....                                   | EA          | 0.073          | 2.69            | 7.43         | 10.12        |
| Anchors   |             |                |                 |              |              |
| Bolts, threaded two ends, with nuts and washers |             |                |                 |              |              |
| 1/2" dia.                                       |             |                |                 |              |              |
| 4" long .....                                   | EA          | 0.050          | 3.75            | 5.11         | 8.86         |
| 7-1/2" long .....                               | EA          | 0.050          | 4.37            | 5.11         | 9.48         |
| 3/4" dia.                                       |             |                |                 |              |              |
| 7-1/2" long .....                               | EA          | 0.050          | 7.39            | 5.11         | 12.50        |
| 15" long .....                                  | EA          | 0.050          | 11.25           | 5.11         | 16.36        |
| Framing anchors                                 |             |                |                 |              |              |
| 10 gauge .....                                  | EA          | 0.067          | 1.60            | 6.81         | 8.41         |
| Bolts, carriage                                 |             |                |                 |              |              |
| 1/4 x 4 .....                                   | EA          | 0.080          | 0.85            | 8.18         | 9.03         |
| 5/16 x 6 .....                                  | EA          | 0.084          | 1.93            | 8.61         | 10.54        |
| 3/8 x 6 .....                                   | EA          | 0.084          | 3.91            | 8.61         | 12.52        |
| 1/2 x 6 .....                                   | EA          | 0.084          | 5.45            | 8.61         | 14.06        |
| Joist and beam hangers                          |             |                |                 |              |              |
| 18 ga.  |             |                |                 |              |              |
| 2 x 4 .....                                     | EA          | 0.080          | 1.61            | 8.18         | 9.79         |
| 2 x 6 .....                                     | EA          | 0.080          | 1.93            | 8.18         | 10.11        |
| 2 x 8 .....                                     | EA          | 0.080          | 2.25            | 8.18         | 10.43        |
| 2 x 10 .....                                    | EA          | 0.089          | 2.42            | 9.08         | 11.50        |
| 2 x 12 .....                                    | EA          | 0.100          | 4.07            | 10.25        | 14.32        |
| 16 ga.  |             |                |                 |              |              |
| 3 x 6 .....                                     | EA          | 0.089          | 6.08            | 9.08         | 15.16        |
| 3 x 8 .....                                     | EA          | 0.089          | 7.38            | 9.08         | 16.46        |
| 3 x 10 .....                                    | EA          | 0.094          | 8.33            | 9.62         | 17.95        |
| 3 x 12 .....                                    | EA          | 0.107          | 9.38            | 11.00        | 20.38        |
| 3 x 14 .....                                    | EA          | 0.114          | 10.25           | 11.75        | 22.00        |
| 4 x 6 .....                                     | EA          | 0.089          | 9.47            | 9.08         | 18.55        |
| 4 x 8 .....                                     | EA          | 0.089          | 11.00           | 9.08         | 20.08        |
| 4 x 10 .....                                    | EA          | 0.094          | 12.75           | 9.62         | 22.37        |
| 4 x 12 .....                                    | EA          | 0.107          | 16.25           | 11.00        | 27.25        |
| 4 x 14 .....                                    | EA          | 0.114          | 17.25           | 11.75        | 29.00        |
| Rafter anchors, 18 ga., 1-1/2" wide             |             |                |                 |              |              |
| 5-1/4" long .....                               | EA          | 0.067          | 1.19            | 6.81         | 8.00         |
| 10-3/4" long .....                              | EA          | 0.067          | 1.76            | 6.81         | 8.57         |
| Shear plates                                    |             |                |                 |              |              |
| 2-5/8" dia. ....                                | EA          | 0.062          | 4.23            | 6.29         | 10.52        |
| 4" dia. ....                                    | EA          | 0.067          | 8.78            | 6.81         | 15.59        |
| Sill anchors                                    |             |                |                 |              |              |
| Embedded in concrete .....                      | EA          | 0.080          | 3.10            | 8.18         | 11.28        |
| Split rings                                     |             |                |                 |              |              |
| 2-1/2" dia. ....                                | EA          | 0.089          | 2.55            | 9.08         | 11.63        |
| 4" dia. ....                                    | EA          | 0.100          | 4.70            | 10.25        | 14.95        |
| Strap ties, 14 ga., 1-3/8" wide                 |             |                |                 |              |              |
| 12" long .....                                  | EA          | 0.067          | 3.19            | 6.81         | 10.00        |
| 18" long .....                                  | EA          | 0.073          | 3.43            | 7.43         | 10.86        |
| 24" long .....                                  | EA          | 0.080          | 5.11            | 8.18         | 13.29        |
| 36" long .....                                  | EA          | 0.089          | 7.02            | 9.08         | 16.10        |
| Toothed rings                                   |             |                |                 |              |              |
| 2-5/8" dia. ....                                | EA          | 0.133          | 2.95            | 13.75        | 16.70        |
| 4" dia. ....                                    | EA          | 0.160          | 3.43            | 16.25        | 19.68        |

## **06057.31 WOOD TREATMENT**

### WOOD TREATMENT

#### Creosote preservative treatment

|                |    |       |      |
|----------------|----|-------|------|
| 8 lb/cf .....  | BF | ..... | 0.74 |
| 10 lb/cf ..... | BF | ..... | 0.88 |

## DIVISION 06 WOOD AND PLASTICS

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>06057.31 WOOD TREATMENT (Cont.)</u></b> |             |                |                 |              |              |
| Salt preservative treatment                   |             |                |                 |              |              |
| Oil borne                                     |             |                |                 |              |              |
| Minimum .....                                 | BF          |                |                 |              | 0.67         |
| Maximum .....                                 | BF          |                |                 |              | 0.95         |
| Water borne                                   |             |                |                 |              |              |
| Minimum .....                                 | BF          |                |                 |              | 0.47         |
| Maximum .....                                 | BF          |                |                 |              | 0.74         |
| Fire retardant treatment                      |             |                |                 |              |              |
| Minimum .....                                 | BF          |                |                 |              | 0.95         |
| Maximum .....                                 | BF          |                |                 |              | 1.15         |
| Kiln dried, softwood, add to framing costs    |             |                |                 |              |              |
| 1" thick .....                                | BF          |                |                 |              | 0.34         |
| 2" thick .....                                | BF          |                |                 |              | 0.47         |
| 3" thick .....                                | BF          |                |                 |              | 0.60         |
| 4" thick .....                                | BF          |                |                 |              | 0.74         |
| <b><u>06110.01 BLOCKING</u></b>               |             |                |                 |              |              |
| BLOCKING                                      |             |                |                 |              |              |
| Steel construction                            |             |                |                 |              |              |
| Walls   |             |                |                 |              |              |
| 2x4 .....                                     | LF          | 0.053          | 1.06            | 5.45         | 6.51         |
| 2x6 .....                                     | LF          | 0.062          | 1.59            | 6.29         | 7.88         |
| 2x8 .....                                     | LF          | 0.067          | 2.12            | 6.81         | 8.93         |
| 2x10 .....                                    | LF          | 0.073          | 2.66            | 7.43         | 10.09        |
| 2x12 .....                                    | LF          | 0.080          | 3.25            | 8.18         | 11.43        |
| Ceilings                                      |             |                |                 |              |              |
| 2x4 .....                                     | LF          | 0.062          | 1.06            | 6.29         | 7.35         |
| 2x6 .....                                     | LF          | 0.073          | 1.59            | 7.43         | 9.02         |
| 2x8 .....                                     | LF          | 0.080          | 2.12            | 8.18         | 10.30        |
| 2x10 .....                                    | LF          | 0.089          | 2.66            | 9.08         | 11.74        |
| 2x12 .....                                    | LF          | 0.100          | 3.25            | 10.25        | 13.50        |
| Wood construction                             |             |                |                 |              |              |
| Walls   |             |                |                 |              |              |
| 2x4 .....                                     | LF          | 0.044          | 1.06            | 4.54         | 5.60         |
| 2x6 .....                                     | LF          | 0.050          | 1.59            | 5.11         | 6.70         |
| 2x8 .....                                     | LF          | 0.053          | 2.12            | 5.45         | 7.57         |
| 2x10 .....                                    | LF          | 0.057          | 2.66            | 5.84         | 8.50         |
| 2x12 .....                                    | LF          | 0.062          | 3.25            | 6.29         | 9.54         |
| Ceilings                                      |             |                |                 |              |              |
| 2x4 .....                                     | LF          | 0.050          | 1.06            | 5.11         | 6.17         |
| 2x6 .....                                     | LF          | 0.057          | 1.59            | 5.84         | 7.43         |
| 2x8 .....                                     | LF          | 0.062          | 2.12            | 6.29         | 8.41         |
| 2x10 .....                                    | LF          | 0.067          | 2.66            | 6.81         | 9.47         |
| 2x12 .....                                    | LF          | 0.073          | 3.25            | 7.43         | 10.68        |
| <b><u>06110.02 CEILING FRAMING</u></b>        |             |                |                 |              |              |
| CEILING FRAMING                               |             |                |                 |              |              |
| Ceiling joists                                |             |                |                 |              |              |
| 12" o.c.                                      |             |                |                 |              |              |
| 2x4 .....                                     | SF          | 0.019          | 1.06            | 1.94         | 3.00         |
| 2x6 .....                                     | SF          | 0.020          | 1.59            | 2.04         | 3.63         |
| 2x8 .....                                     | SF          | 0.021          | 2.12            | 2.15         | 4.27         |
| 2x10 .....                                    | SF          | 0.022          | 2.66            | 2.27         | 4.93         |
| 2x12 .....                                    | SF          | 0.024          | 3.25            | 2.40         | 5.65         |
| 16" o.c.                                      |             |                |                 |              |              |
| 2x4 .....                                     | SF          | 0.015          | 1.04            | 1.57         | 2.61         |
| 2x6 .....                                     | SF          | 0.016          | 1.19            | 1.63         | 2.82         |
| 2x8 .....                                     | SF          | 0.017          | 1.59            | 1.70         | 3.29         |
| 2x10 .....                                    | SF          | 0.017          | 1.99            | 1.77         | 3.76         |
| 2x12 .....                                    | SF          | 0.018          | 2.44            | 1.85         | 4.29         |
| 24" o.c.                                      |             |                |                 |              |              |
| 2x4 .....                                     | SF          | 0.013          | 0.53            | 1.29         | 1.82         |
| 2x6 .....                                     | SF          | 0.013          | 0.82            | 1.36         | 2.18         |
| 2x8 .....                                     | SF          | 0.014          | 1.06            | 1.43         | 2.49         |
| 2x10 .....                                    | SF          | 0.015          | 1.33            | 1.51         | 2.84         |
| 2x12 .....                                    | SF          | 0.016          | 1.62            | 1.60         | 3.22         |

## DIVISION 06 WOOD AND PLASTICS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>06110.02 CEILING FRAMING (Cont.)</b> |             |                |                 |              |              |
| Headers and nailers                     |             |                |                 |              |              |
| 2x4 .....                               | LF          | 0.026          | 1.06            | 2.63         | 3.69         |
| 2x6 .....                               | LF          | 0.027          | 1.59            | 2.72         | 4.31         |
| 2x8 .....                               | LF          | 0.029          | 2.12            | 2.92         | 5.04         |
| 2x10 .....                              | LF          | 0.031          | 2.66            | 3.14         | 5.80         |
| 2x12 .....                              | LF          | 0.033          | 3.25            | 3.40         | 6.65         |
| Sister joists for ceilings              |             |                |                 |              |              |
| 2x4 .....                               | LF          | 0.057          | 1.06            | 5.84         | 6.90         |
| 2x6 .....                               | LF          | 0.067          | 1.59            | 6.81         | 8.40         |
| 2x8 .....                               | LF          | 0.080          | 2.12            | 8.18         | 10.30        |
| 2x10 .....                              | LF          | 0.100          | 2.66            | 10.25        | 12.91        |
| 2x12 .....                              | LF          | 0.133          | 3.25            | 13.75        | 17.00        |
| <b>06110.03 FLOOR FRAMING</b>           |             |                |                 |              |              |
| FLOOR FRAMING                           |             |                |                 |              |              |
| Floor joists                            |             |                |                 |              |              |
| 12" o.c.                                |             |                |                 |              |              |
| 2x6 .....                               | SF          | 0.016          | 1.59            | 1.63         | 3.22         |
| 2x8 .....                               | SF          | 0.016          | 2.12            | 1.66         | 3.78         |
| 2x10 .....                              | SF          | 0.017          | 2.66            | 1.70         | 4.36         |
| 2x12 .....                              | SF          | 0.017          | 3.25            | 1.77         | 5.02         |
| 2x14 .....                              | SF          | 0.017          | 3.79            | 1.70         | 5.49         |
| 3x6 .....                               | SF          | 0.017          | 4.12            | 1.74         | 5.86         |
| 3x8 .....                               | SF          | 0.017          | 5.50            | 1.77         | 7.27         |
| 3x10 .....                              | SF          | 0.018          | 6.87            | 1.85         | 8.72         |
| 3x12 .....                              | SF          | 0.019          | 8.25            | 1.94         | 10.19        |
| 3x14 .....                              | SF          | 0.020          | 9.62            | 2.04         | 11.66        |
| 4x6 .....                               | SF          | 0.017          | 3.63            | 1.70         | 5.33         |
| 4x8 .....                               | SF          | 0.017          | 4.84            | 1.77         | 6.61         |
| 4x10 .....                              | SF          | 0.018          | 6.05            | 1.85         | 7.90         |
| 4x12 .....                              | SF          | 0.019          | 7.26            | 1.94         | 9.20         |
| 4x14 .....                              | SF          | 0.020          | 8.47            | 2.04         | 10.51        |
| 16" o.c.                                |             |                |                 |              |              |
| 2x6 .....                               | SF          | 0.013          | 1.19            | 1.36         | 2.55         |
| 2x8 .....                               | SF          | 0.014          | 1.59            | 1.38         | 2.97         |
| 2x10 .....                              | SF          | 0.014          | 1.99            | 1.41         | 3.40         |
| 2x12 .....                              | SF          | 0.014          | 2.44            | 1.46         | 3.90         |
| 2x14 .....                              | SF          | 0.015          | 2.83            | 1.51         | 4.34         |
| 3x6 .....                               | SF          | 0.014          | 1.98            | 1.41         | 3.39         |
| 3x8 .....                               | SF          | 0.014          | 2.64            | 1.46         | 4.10         |
| 3x10 .....                              | SF          | 0.015          | 3.30            | 1.51         | 4.81         |
| 3x12 .....                              | SF          | 0.015          | 3.96            | 1.57         | 5.53         |
| 3x14 .....                              | SF          | 0.016          | 4.62            | 1.63         | 6.25         |
| 4x6 .....                               | SF          | 0.014          | 2.64            | 1.41         | 4.05         |
| 4x8 .....                               | SF          | 0.014          | 3.52            | 1.46         | 4.98         |
| 4x10 .....                              | SF          | 0.015          | 4.40            | 1.51         | 5.91         |
| 4x12 .....                              | SF          | 0.015          | 5.28            | 1.57         | 6.85         |
| 4x14 .....                              | SF          | 0.016          | 6.16            | 1.63         | 7.79         |
| Sister joists for floors                |             |                |                 |              |              |
| 2x4 .....                               | LF          | 0.050          | 1.06            | 5.11         | 6.17         |
| 2x6 .....                               | LF          | 0.057          | 1.59            | 5.84         | 7.43         |
| 2x8 .....                               | LF          | 0.067          | 2.12            | 6.81         | 8.93         |
| 2x10 .....                              | LF          | 0.080          | 2.66            | 8.18         | 10.84        |
| 2x12 .....                              | LF          | 0.100          | 3.25            | 10.25        | 13.50        |
| 3x6 .....                               | LF          | 0.080          | 4.12            | 8.18         | 12.30        |
| 3x8 .....                               | LF          | 0.089          | 5.50            | 9.08         | 14.58        |
| 3x10 .....                              | LF          | 0.100          | 6.87            | 10.25        | 17.12        |
| 3x12 .....                              | LF          | 0.114          | 8.25            | 11.75        | 20.00        |
| 4x6 .....                               | LF          | 0.080          | 3.63            | 8.18         | 11.81        |
| 4x8 .....                               | LF          | 0.089          | 4.84            | 9.08         | 13.92        |
| 4x10 .....                              | LF          | 0.100          | 6.05            | 10.25        | 16.30        |
| 4x12 .....                              | LF          | 0.114          | 7.26            | 11.75        | 19.01        |

## DIVISION 06 WOOD AND PLASTICS

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|                                 | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>06110.04 FURRING</b>         |             |                |                 |              |              |
| FURRING                         |             |                |                 |              |              |
| Furring, wood strips            |             |                |                 |              |              |
| Walls                           |             |                |                 |              |              |
| On masonry or concrete walls    |             |                |                 |              |              |
| 1x2 furring                     |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.025          | 0.46            | 2.55         | 3.01         |
| 16" o.c.                        | SF .....    | 0.023          | 0.35            | 2.33         | 2.68         |
| 24" o.c.                        | SF .....    | 0.021          | 0.23            | 2.15         | 2.38         |
| 1x3 furring                     |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.025          | 0.69            | 2.55         | 3.24         |
| 16" o.c.                        | SF .....    | 0.023          | 0.51            | 2.33         | 2.84         |
| 24" o.c.                        | SF .....    | 0.021          | 0.35            | 2.15         | 2.50         |
| On wood walls                   |             |                |                 |              |              |
| 1x2 furring                     |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.018          | 0.46            | 1.81         | 2.27         |
| 16" o.c.                        | SF .....    | 0.016          | 0.35            | 1.63         | 1.98         |
| 24" o.c.                        | SF .....    | 0.015          | 0.23            | 1.48         | 1.71         |
| 1x3 furring                     |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.018          | 0.69            | 1.81         | 2.50         |
| 16" o.c.                        | SF .....    | 0.016          | 0.51            | 1.63         | 2.14         |
| 24" o.c.                        | SF .....    | 0.015          | 0.35            | 1.48         | 1.83         |
| Ceilings                        |             |                |                 |              |              |
| On masonry or concrete ceilings |             |                |                 |              |              |
| 1x2 furring                     |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.044          | 0.46            | 4.54         | 5.00         |
| 16" o.c.                        | SF .....    | 0.040          | 0.35            | 4.09         | 4.44         |
| 24" o.c.                        | SF .....    | 0.036          | 0.23            | 3.71         | 3.94         |
| 1x3 furring                     |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.044          | 0.69            | 4.54         | 5.23         |
| 16" o.c.                        | SF .....    | 0.040          | 0.51            | 4.09         | 4.60         |
| 24" o.c.                        | SF .....    | 0.036          | 0.35            | 3.71         | 4.06         |
| On wood ceilings                |             |                |                 |              |              |
| 1x2 furring                     |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.030          | 0.46            | 3.02         | 3.48         |
| 16" o.c.                        | SF .....    | 0.027          | 0.35            | 2.72         | 3.07         |
| 24" o.c.                        | SF .....    | 0.024          | 0.23            | 2.47         | 2.70         |
| 1x3                             |             |                |                 |              |              |
| 12" o.c.                        | SF .....    | 0.030          | 0.69            | 3.02         | 3.71         |
| 16" o.c.                        | SF .....    | 0.027          | 0.51            | 2.72         | 3.23         |
| 24" o.c.                        | SF .....    | 0.024          | 0.35            | 2.47         | 2.82         |
| <b>06110.05 ROOF FRAMING</b>    |             |                |                 |              |              |
| ROOF FRAMING                    |             |                |                 |              |              |
| Roof framing                    |             |                |                 |              |              |
| Rafters, gable end              |             |                |                 |              |              |
| 0-2 pitch (flat to 2-in-12)     |             |                |                 |              |              |
| 12" o.c.                        |             |                |                 |              |              |
| 2x4                             | SF .....    | 0.017          | 1.06            | 1.70         | 2.76         |
| 2x6                             | SF .....    | 0.017          | 1.59            | 1.77         | 3.36         |
| 2x8                             | SF .....    | 0.018          | 2.12            | 1.85         | 3.97         |
| 2x10                            | SF .....    | 0.019          | 2.66            | 1.94         | 4.60         |
| 2x12                            | SF .....    | 0.020          | 3.25            | 2.04         | 5.29         |
| 16" o.c.                        |             |                |                 |              |              |
| 2x6                             | SF .....    | 0.014          | 1.19            | 1.46         | 2.65         |
| 2x8                             | SF .....    | 0.015          | 1.59            | 1.51         | 3.10         |
| 2x10                            | SF .....    | 0.015          | 2.00            | 1.57         | 3.57         |
| 2x12                            | SF .....    | 0.016          | 2.44            | 1.63         | 4.07         |
| 24" o.c.                        |             |                |                 |              |              |
| 2x6                             | SF .....    | 0.012          | 0.80            | 1.23         | 2.03         |
| 2x8                             | SF .....    | 0.013          | 1.06            | 1.27         | 2.33         |
| 2x10                            | SF .....    | 0.013          | 1.33            | 1.31         | 2.64         |
| 2x12                            | SF .....    | 0.013          | 1.62            | 1.36         | 2.98         |

## DIVISION 06 WOOD AND PLASTICS

|                                      | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>06110.05 ROOF FRAMING (Cont.)</b> |             |                |                 |              |              |
| Rafters, gable end                   |             |                |                 |              |              |
| 4-6 pitch (4-in-12 to 6-in-12)       |             |                |                 |              |              |
| 12" o.c.                             |             |                |                 |              |              |
| 2x4 .....                            | SF          | 0.017          | 1.06            | 1.77         | 2.83         |
| 2x6 .....                            | SF          | 0.018          | 1.59            | 1.85         | 3.44         |
| 2x8 .....                            | SF          | 0.019          | 2.12            | 1.94         | 4.06         |
| 2x10 .....                           | SF          | 0.020          | 2.66            | 2.04         | 4.70         |
| 2x12 .....                           | SF          | 0.021          | 3.25            | 2.15         | 5.40         |
| 16" o.c.                             |             |                |                 |              |              |
| 2x6 .....                            | SF          | 0.015          | 1.19            | 1.51         | 2.70         |
| 2x8 .....                            | SF          | 0.015          | 1.59            | 1.57         | 3.16         |
| 2x10 .....                           | SF          | 0.016          | 2.00            | 1.63         | 3.63         |
| 2x12 .....                           | SF          | 0.017          | 2.44            | 1.70         | 4.14         |
| 24" o.c.                             |             |                |                 |              |              |
| 2x6 .....                            | SF          | 0.013          | 0.80            | 1.27         | 2.07         |
| 2x8 .....                            | SF          | 0.013          | 1.06            | 1.31         | 2.37         |
| 2x10 .....                           | SF          | 0.014          | 1.33            | 1.41         | 2.74         |
| 2x12 .....                           | SF          | 0.015          | 1.62            | 1.57         | 3.19         |
| 8-12 pitch (8-in-12 to 12-in-12)     |             |                |                 |              |              |
| 12" o.c.                             |             |                |                 |              |              |
| 2x4 .....                            | SF          | 0.018          | 1.15            | 1.85         | 3.00         |
| 2x6 .....                            | SF          | 0.019          | 1.72            | 1.94         | 3.66         |
| 2x8 .....                            | SF          | 0.020          | 2.29            | 2.04         | 4.33         |
| 2x10 .....                           | SF          | 0.021          | 2.87            | 2.15         | 5.02         |
| 2x12 .....                           | SF          | 0.022          | 3.51            | 2.27         | 5.78         |
| 16" o.c.                             |             |                |                 |              |              |
| 2x6 .....                            | SF          | 0.015          | 1.29            | 1.57         | 2.86         |
| 2x8 .....                            | SF          | 0.016          | 1.72            | 1.63         | 3.35         |
| 2x10 .....                           | SF          | 0.017          | 2.16            | 1.70         | 3.86         |
| 2x12 .....                           | SF          | 0.017          | 2.63            | 1.77         | 4.40         |
| 24" o.c.                             |             |                |                 |              |              |
| 2x6 .....                            | SF          | 0.013          | 0.86            | 1.31         | 2.17         |
| 2x8 .....                            | SF          | 0.013          | 1.15            | 1.36         | 2.51         |
| 2x10 .....                           | SF          | 0.014          | 1.43            | 1.41         | 2.84         |
| 2x12 .....                           | SF          | 0.014          | 1.75            | 1.46         | 3.21         |
| Ridge boards                         |             |                |                 |              |              |
| 2x6 .....                            | LF          | 0.040          | 1.59            | 4.09         | 5.68         |
| 2x8 .....                            | LF          | 0.044          | 2.12            | 4.54         | 6.66         |
| 2x10 .....                           | LF          | 0.050          | 2.66            | 5.11         | 7.77         |
| 2x12 .....                           | LF          | 0.057          | 3.25            | 5.84         | 9.09         |
| Hip rafters                          |             |                |                 |              |              |
| 2x6 .....                            | LF          | 0.029          | 1.59            | 2.92         | 4.51         |
| 2x8 .....                            | LF          | 0.030          | 2.12            | 3.02         | 5.14         |
| 2x10 .....                           | LF          | 0.031          | 2.66            | 3.14         | 5.80         |
| 2x12 .....                           | LF          | 0.032          | 3.25            | 3.27         | 6.52         |
| Jack rafters                         |             |                |                 |              |              |
| 4-6 pitch (4-in-12 to 6-in-12)       |             |                |                 |              |              |
| 16" o.c.                             |             |                |                 |              |              |
| 2x6 .....                            | SF          | 0.024          | 1.19            | 2.40         | 3.59         |
| 2x8 .....                            | SF          | 0.024          | 1.59            | 2.47         | 4.06         |
| 2x10 .....                           | SF          | 0.026          | 2.00            | 2.63         | 4.63         |
| 2x12 .....                           | SF          | 0.027          | 2.44            | 2.72         | 5.16         |
| 24" o.c.                             |             |                |                 |              |              |
| 2x6 .....                            | SF          | 0.018          | 0.80            | 1.85         | 2.65         |
| 2x8 .....                            | SF          | 0.019          | 1.06            | 1.90         | 2.96         |
| 2x10 .....                           | SF          | 0.020          | 1.33            | 1.99         | 3.32         |
| 2x12 .....                           | SF          | 0.020          | 1.62            | 2.04         | 3.66         |
| 8-12 pitch (8-in-12 to 12-in-12)     |             |                |                 |              |              |
| 16" o.c.                             |             |                |                 |              |              |
| 2x6 .....                            | SF          | 0.025          | 1.29            | 2.55         | 3.84         |
| 2x8 .....                            | SF          | 0.026          | 1.72            | 2.63         | 4.35         |
| 2x10 .....                           | SF          | 0.027          | 2.16            | 2.72         | 4.88         |
| 2x12 .....                           | SF          | 0.028          | 2.63            | 2.82         | 5.45         |

## DIVISION 06 WOOD AND PLASTICS

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|                                      | Unit | Man-Hrs | Material | Labor | Total |
|--------------------------------------|------|---------|----------|-------|-------|
| <b>06110.05 ROOF FRAMING (Cont.)</b> |      |         |          |       |       |
| 8-12 pitch (8-in-12 to 12-in-12)     |      |         |          |       |       |
| 24" o.c.                             |      |         |          |       |       |
| 2x6 .....                            | SF   | 0.019   | 0.86     | 1.94  | 2.80  |
| 2x8 .....                            | SF   | 0.020   | 1.15     | 1.99  | 3.14  |
| 2x10 .....                           | SF   | 0.020   | 1.43     | 2.04  | 3.47  |
| 2x12 .....                           | SF   | 0.021   | 1.75     | 2.09  | 3.84  |
| Sister rafters                       |      |         |          |       |       |
| 2x4 .....                            | LF   | 0.057   | 1.06     | 5.84  | 6.90  |
| 2x6 .....                            | LF   | 0.067   | 1.59     | 6.81  | 8.40  |
| 2x8 .....                            | LF   | 0.080   | 2.12     | 8.18  | 10.30 |
| 2x10 .....                           | LF   | 0.100   | 2.66     | 10.25 | 12.91 |
| 2x12 .....                           | LF   | 0.133   | 3.25     | 13.75 | 17.00 |
| Fascia boards                        |      |         |          |       |       |
| 2x4 .....                            | LF   | 0.040   | 1.16     | 4.09  | 5.25  |
| 2x6 .....                            | LF   | 0.040   | 1.76     | 4.09  | 5.85  |
| 2x8 .....                            | LF   | 0.044   | 2.34     | 4.54  | 6.88  |
| 2x10 .....                           | LF   | 0.044   | 2.93     | 4.54  | 7.47  |
| 2x12 .....                           | LF   | 0.050   | 3.52     | 5.11  | 8.63  |
| Cant strips                          |      |         |          |       |       |
| Fiber                                |      |         |          |       |       |
| 3x3 .....                            | LF   | 0.023   | 0.84     | 2.33  | 3.17  |
| 4x4 .....                            | LF   | 0.024   | 1.17     | 2.47  | 3.64  |
| Wood                                 |      |         |          |       |       |
| 3x3 .....                            | LF   | 0.024   | 4.36     | 2.47  | 6.83  |
| <b>06110.06 SLEEPERS</b>             |      |         |          |       |       |
| SLEEPERS                             |      |         |          |       |       |
| Sleepers, over concrete              |      |         |          |       |       |
| 12" o.c.                             |      |         |          |       |       |
| 1x2 .....                            | SF   | 0.018   | 0.47     | 1.85  | 2.32  |
| 1x3 .....                            | SF   | 0.019   | 0.69     | 1.94  | 2.63  |
| 2x4 .....                            | SF   | 0.022   | 1.07     | 2.27  | 3.34  |
| 2x6 .....                            | SF   | 0.024   | 1.59     | 2.40  | 3.99  |
| 16" o.c.                             |      |         |          |       |       |
| 1x2 .....                            | SF   | 0.016   | 0.35     | 1.63  | 1.98  |
| 1x3 .....                            | SF   | 0.016   | 0.51     | 1.63  | 2.14  |
| 2x4 .....                            | SF   | 0.019   | 0.81     | 1.94  | 2.75  |
| 2x6 .....                            | SF   | 0.020   | 1.19     | 2.04  | 3.23  |
| <b>06110.07 SOFFITS</b>              |      |         |          |       |       |
| SOFFITS                              |      |         |          |       |       |
| Soffit framing                       |      |         |          |       |       |
| 2x3 .....                            | LF   | 0.057   | 0.81     | 5.84  | 6.65  |
| 2x4 .....                            | LF   | 0.062   | 1.07     | 6.29  | 7.36  |
| 2x6 .....                            | LF   | 0.067   | 1.59     | 6.81  | 8.40  |
| 2x8 .....                            | LF   | 0.073   | 2.12     | 7.43  | 9.55  |
| <b>06110.08 WALL FRAMING</b>         |      |         |          |       |       |
| WALL FRAMING                         |      |         |          |       |       |
| Framing wall, studs                  |      |         |          |       |       |
| 12" o.c.                             |      |         |          |       |       |
| 2x3 .....                            | SF   | 0.015   | 0.80     | 1.51  | 2.31  |
| 2x4 .....                            | SF   | 0.015   | 1.06     | 1.51  | 2.57  |
| 2x6 .....                            | SF   | 0.016   | 1.59     | 1.63  | 3.22  |
| 2x8 .....                            | SF   | 0.017   | 2.12     | 1.70  | 3.82  |
| 16" o.c.                             |      |         |          |       |       |
| 2x3 .....                            | SF   | 0.013   | 0.60     | 1.27  | 1.87  |
| 2x4 .....                            | SF   | 0.013   | 0.80     | 1.27  | 2.07  |
| 2x6 .....                            | SF   | 0.013   | 1.19     | 1.36  | 2.55  |
| 2x8 .....                            | SF   | 0.014   | 1.59     | 1.41  | 3.00  |
| 24" o.c.                             |      |         |          |       |       |
| 2x3 .....                            | SF   | 0.011   | 0.40     | 1.10  | 1.50  |
| 2x4 .....                            | SF   | 0.011   | 0.53     | 1.10  | 1.63  |
| 2x6 .....                            | SF   | 0.011   | 0.79     | 1.16  | 1.95  |
| 2x8 .....                            | SF   | 0.012   | 1.06     | 1.20  | 2.26  |

## DIVISION 06 WOOD AND PLASTICS

|                                      | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>06110.08 WALL FRAMING (Cont.)</b> |             |                |                 |              |              |
| Framing wall, studs                  |             |                |                 |              |              |
| Plates, top or bottom                |             |                |                 |              |              |
| 2x3 .....                            | LF          | 0.024          | 0.80            | 2.40         | 3.20         |
| 2x4 .....                            | LF          | 0.025          | 1.06            | 2.55         | 3.61         |
| 2x6 .....                            | LF          | 0.027          | 1.59            | 2.72         | 4.31         |
| 2x8 .....                            | LF          | 0.029          | 2.12            | 2.92         | 5.04         |
| Headers, door or window              |             |                |                 |              |              |
| 2x6                                  |             |                |                 |              |              |
| Single                               |             |                |                 |              |              |
| 3' long .....                        | EA          | 0.400          | 4.78            | 41.00        | 45.78        |
| 6' long .....                        | EA          | 0.500          | 9.57            | 51.00        | 60.57        |
| Double                               |             |                |                 |              |              |
| 3' long .....                        | EA          | 0.444          | 9.57            | 45.50        | 55.07        |
| 6' long .....                        | EA          | 0.571          | 19.25           | 58.00        | 77.25        |
| 2x8                                  |             |                |                 |              |              |
| Single                               |             |                |                 |              |              |
| 4' long .....                        | EA          | 0.500          | 8.49            | 51.00        | 59.49        |
| 8' long .....                        | EA          | 0.615          | 17.00           | 63.00        | 80.00        |
| Double                               |             |                |                 |              |              |
| 4' long .....                        | EA          | 0.571          | 17.00           | 58.00        | 75.00        |
| 8' long .....                        | EA          | 0.727          | 34.00           | 74.00        | 108.00       |
| 2x10                                 |             |                |                 |              |              |
| Single                               |             |                |                 |              |              |
| 5' long .....                        | EA          | 0.615          | 13.25           | 63.00        | 76.25        |
| 10' long .....                       | EA          | 0.800          | 26.50           | 82.00        | 108.50       |
| Double                               |             |                |                 |              |              |
| 5' long .....                        | EA          | 0.667          | 26.50           | 68.00        | 94.50        |
| 10' long .....                       | EA          | 0.800          | 53.00           | 82.00        | 135.00       |
| 2x12                                 |             |                |                 |              |              |
| Single                               |             |                |                 |              |              |
| 6' long .....                        | EA          | 0.615          | 19.25           | 63.00        | 82.25        |
| 12' long .....                       | EA          | 0.800          | 38.25           | 82.00        | 120.25       |
| Double                               |             |                |                 |              |              |
| 6' long .....                        | EA          | 0.727          | 38.25           | 74.00        | 112.25       |
| 12' long .....                       | EA          | 0.889          | 77.00           | 91.00        | 168.00       |
| <b>06130.01 HEAVY TIMBER</b>         |             |                |                 |              |              |
| HEAVY TIMBER                         |             |                |                 |              |              |
| Mill framed structures               |             |                |                 |              |              |
| Beams to 20' long                    |             |                |                 |              |              |
| Douglas fir                          |             |                |                 |              |              |
| 6x8 .....                            | LF          | 0.080          | 13.75           | 10.75        | 24.50        |
| 6x10 .....                           | LF          | 0.083          | 17.00           | 11.00        | 28.00        |
| 6x12 .....                           | LF          | 0.089          | 20.50           | 12.00        | 32.50        |
| 6x14 .....                           | LF          | 0.092          | 23.75           | 12.50        | 36.25        |
| 6x16 .....                           | LF          | 0.096          | 27.25           | 13.00        | 40.25        |
| 8x10 .....                           | LF          | 0.083          | 22.75           | 11.00        | 33.75        |
| 8x12 .....                           | LF          | 0.089          | 27.25           | 12.00        | 39.25        |
| 8x14 .....                           | LF          | 0.092          | 31.75           | 12.50        | 44.25        |
| 8x16 .....                           | LF          | 0.096          | 36.25           | 13.00        | 49.25        |
| Southern yellow pine                 |             |                |                 |              |              |
| 6x8 .....                            | LF          | 0.080          | 10.50           | 10.75        | 21.25        |
| 6x10 .....                           | LF          | 0.083          | 12.75           | 11.00        | 23.75        |
| 6x12 .....                           | LF          | 0.089          | 16.50           | 12.00        | 28.50        |
| 6x14 .....                           | LF          | 0.092          | 18.75           | 12.50        | 31.25        |
| 6x16 .....                           | LF          | 0.096          | 20.75           | 13.00        | 33.75        |
| 8x10 .....                           | LF          | 0.083          | 17.50           | 11.00        | 28.50        |
| 8x12 .....                           | LF          | 0.089          | 21.25           | 12.00        | 33.25        |
| 8x14 .....                           | LF          | 0.092          | 24.25           | 12.50        | 36.75        |
| 8x16 .....                           | LF          | 0.096          | 28.00           | 13.00        | 41.00        |
| Columns to 12' high                  |             |                |                 |              |              |
| Douglas fir                          |             |                |                 |              |              |
| 6x6 .....                            | LF          | 0.120          | 10.25           | 16.00        | 26.25        |
| 8x8 .....                            | LF          | 0.120          | 17.75           | 16.00        | 33.75        |
| 10x10 .....                          | LF          | 0.133          | 31.00           | 18.00        | 49.00        |

## DIVISION 06 WOOD AND PLASTICS

|                                      |    | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|----|-------------|----------------|-----------------|--------------|--------------|
| <b>06130.01 HEAVY TIMBER (Cont.)</b> |    |             |                |                 |              |              |
| Douglas fir                          |    |             |                |                 |              |              |
| 12x12 .....                          | LF | 0.133       |                | 38.25           | 18.00        | 56.25        |
| Southern yellow pine                 |    |             |                |                 |              |              |
| 6x6 .....                            | LF | 0.120       |                | 8.25            | 16.00        | 24.25        |
| 8x8 .....                            | LF | 0.120       |                | 13.75           | 16.00        | 29.75        |
| 10x10 .....                          | LF | 0.133       |                | 21.50           | 18.00        | 39.50        |
| 12x12 .....                          | LF | 0.133       |                | 30.00           | 18.00        | 48.00        |
| Posts, treated                       |    |             |                |                 |              |              |
| 4x4 .....                            | LF | 0.032       |                | 2.87            | 3.27         | 6.14         |
| 6x6 .....                            | LF | 0.040       |                | 8.33            | 4.09         | 12.42        |

### **06150.01 WOOD DECKING**

|                                   |    |       |  |       |       |       |
|-----------------------------------|----|-------|--|-------|-------|-------|
| WOOD DECKING                      |    |       |  |       |       |       |
| Decking, T&G solid                |    |       |  |       |       |       |
| Cedar                             |    |       |  |       |       |       |
| 3" thick .....                    | SF | 0.020 |  | 15.25 | 2.04  | 17.29 |
| 4" thick .....                    | SF | 0.021 |  | 19.00 | 2.18  | 21.18 |
| Fir                               |    |       |  |       |       |       |
| 3" thick .....                    | SF | 0.020 |  | 6.63  | 2.04  | 8.67  |
| 4" thick .....                    | SF | 0.021 |  | 8.05  | 2.18  | 10.23 |
| Southern yellow pine              |    |       |  |       |       |       |
| 3" thick .....                    | SF | 0.023 |  | 6.63  | 2.33  | 8.96  |
| 4" thick .....                    | SF | 0.025 |  | 7.01  | 2.51  | 9.52  |
| White pine                        |    |       |  |       |       |       |
| 3" thick .....                    | SF | 0.020 |  | 8.05  | 2.04  | 10.09 |
| 4" thick .....                    | SF | 0.021 |  | 11.00 | 2.18  | 13.18 |
| Residential decking               |    |       |  |       |       |       |
| Framing, treated lumber           |    |       |  |       |       |       |
| 12" o.c.                          |    |       |  |       |       |       |
| 2x6 .....                         | SF | 0.018 |  | 2.20  | 1.81  | 4.01  |
| 2x8 .....                         | SF | 0.018 |  | 2.93  | 1.85  | 4.78  |
| 2x10 .....                        | SF | 0.019 |  | 3.66  | 1.90  | 5.56  |
| 2x12 .....                        | SF | 0.020 |  | 4.40  | 1.99  | 6.39  |
| 16" o.c.                          |    |       |  |       |       |       |
| 2x6 .....                         | SF | 0.015 |  | 1.65  | 1.51  | 3.16  |
| 2x8 .....                         | SF | 0.015 |  | 2.20  | 1.54  | 3.74  |
| 2x10 .....                        | SF | 0.015 |  | 2.75  | 1.57  | 4.32  |
| 2x12 .....                        | SF | 0.016 |  | 3.30  | 1.63  | 4.93  |
| 24" o.c.                          |    |       |  |       |       |       |
| 2x6 .....                         | SF | 0.015 |  | 1.10  | 1.54  | 2.64  |
| 2x8 .....                         | SF | 0.016 |  | 1.47  | 1.60  | 3.07  |
| 2x10 .....                        | SF | 0.017 |  | 1.83  | 1.70  | 3.53  |
| 2x12 .....                        | SF | 0.018 |  | 2.20  | 1.81  | 4.01  |
| Wood Posts, 4x4                   |    |       |  |       |       |       |
| 4' high .....                     | EA | 0.400 |  | 11.75 | 41.00 | 52.75 |
| 6' high .....                     | EA | 0.533 |  | 17.50 | 55.00 | 72.50 |
| Wood Decking                      |    |       |  |       |       |       |
| Treated, Southern Yellow Pine     |    |       |  |       |       |       |
| 5/4x6 .....                       | SF | 0.064 |  | 4.62  | 6.54  | 11.16 |
| 2x4 .....                         | SF | 0.080 |  | 4.75  | 8.18  | 12.93 |
| 2x6 .....                         | SF | 0.070 |  | 4.62  | 7.11  | 11.73 |
| Redwood/Cedar                     |    |       |  |       |       |       |
| 1x6 .....                         | SF | 0.064 |  | 8.25  | 6.54  | 14.79 |
| 2x4 .....                         | SF | 0.080 |  | 9.90  | 8.18  | 18.08 |
| 2x6 .....                         | SF | 0.070 |  | 9.90  | 7.11  | 17.01 |
| Railing, 2x4 rails, 2x2 balusters |    |       |  |       |       |       |
| Redwood/cedar .....               | LF | 0.160 |  | 12.75 | 16.25 | 29.00 |
| SYP treated lumber .....          | LF | 0.160 |  | 7.08  | 16.25 | 23.33 |

For composites see Division 06448

### **06160.01 FLOOR SHEATHING**

|                            |    |       |  |      |      |      |
|----------------------------|----|-------|--|------|------|------|
| FLOOR SHEATHING            |    |       |  |      |      |      |
| Sub-flooring, plywood, CDX |    |       |  |      |      |      |
| 1/2" thick .....           | SF | 0.010 |  | 0.82 | 1.02 | 1.84 |
| 5/8" thick .....           | SF | 0.011 |  | 0.93 | 1.16 | 2.09 |
| 3/4" thick .....           | SF | 0.013 |  | 1.10 | 1.36 | 2.46 |

## DIVISION 06 WOOD AND PLASTICS

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>06160.01 FLOOR SHEATHING (Cont.)</b>          |             |                |                 |              |              |
| Sub-flooring                                     |             |                |                 |              |              |
| Structural plywood                               |             |                |                 |              |              |
| 1/2" thick .....                                 | SF          | 0.010          | 1.27            | 1.02         | 2.29         |
| 5/8" thick .....                                 | SF          | 0.011          | 1.44            | 1.16         | 2.60         |
| 3/4" thick .....                                 | SF          | 0.012          | 1.70            | 1.25         | 2.95         |
| Board type sub-flooring                          |             |                |                 |              |              |
| 1x6  |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.018          | 1.65            | 1.81         | 3.46         |
| Maximum .....                                    | SF          | 0.020          | 1.92            | 2.04         | 3.96         |
| 1x8  |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.017          | 2.20            | 1.72         | 3.92         |
| Maximum .....                                    | SF          | 0.019          | 2.58            | 1.92         | 4.50         |
| 1x10   |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.016          | 2.75            | 1.63         | 4.38         |
| Maximum .....                                    | SF          | 0.018          | 3.24            | 1.81         | 5.05         |
| Underlayment                                     |             |                |                 |              |              |
| Hardboard, 1/4" tempered .....                   | SF          | 0.010          | 1.57            | 1.02         | 2.59         |
| Plywood, CDX                                     |             |                |                 |              |              |
| 3/8" thick .....                                 | SF          | 0.010          | 0.71            | 1.02         | 1.73         |
| 1/2" thick .....                                 | SF          | 0.011          | 0.82            | 1.09         | 1.91         |
| 5/8" thick .....                                 | SF          | 0.011          | 0.93            | 1.16         | 2.09         |
| 3/4" thick .....                                 | SF          | 0.012          | 1.10            | 1.25         | 2.35         |
| <b>06160.02 ROOF SHEATHING</b>                   |             |                |                 |              |              |
| ROOF SHEATHING                                   |             |                |                 |              |              |
| Sheathing  |             |                |                 |              |              |
| Plywood, CDX                                     |             |                |                 |              |              |
| 3/8" thick .....                                 | SF          | 0.010          | 0.71            | 1.05         | 1.76         |
| 1/2" thick .....                                 | SF          | 0.011          | 0.82            | 1.09         | 1.91         |
| 5/8" thick .....                                 | SF          | 0.011          | 0.93            | 1.16         | 2.09         |
| 3/4" thick .....                                 | SF          | 0.012          | 1.10            | 1.25         | 2.35         |
| Structural plywood                               |             |                |                 |              |              |
| 3/8" thick .....                                 | SF          | 0.010          | 0.44            | 1.05         | 1.49         |
| 1/2" thick .....                                 | SF          | 0.011          | 0.70            | 1.09         | 1.79         |
| 5/8" thick .....                                 | SF          | 0.011          | 0.88            | 1.16         | 2.04         |
| 3/4" thick .....                                 | SF          | 0.012          | 1.04            | 1.25         | 2.29         |
| <b>06160.03 WALL SHEATHING</b>                   |             |                |                 |              |              |
| WALL SHEATHING                                   |             |                |                 |              |              |
| Sheathing  |             |                |                 |              |              |
| Plywood, CDX                                     |             |                |                 |              |              |
| 3/8" thick .....                                 | SF          | 0.012          | 0.71            | 1.21         | 1.92         |
| 1/2" thick .....                                 | SF          | 0.012          | 0.82            | 1.25         | 2.07         |
| 5/8" thick .....                                 | SF          | 0.013          | 0.93            | 1.36         | 2.29         |
| 3/4" thick .....                                 | SF          | 0.015          | 1.10            | 1.48         | 2.58         |
| Waferboard                                       |             |                |                 |              |              |
| 3/8" thick .....                                 | SF          | 0.012          | 0.44            | 1.21         | 1.65         |
| 1/2" thick .....                                 | SF          | 0.012          | 0.70            | 1.25         | 1.95         |
| 5/8" thick .....                                 | SF          | 0.013          | 0.88            | 1.36         | 2.24         |
| 3/4" thick .....                                 | SF          | 0.015          | 1.04            | 1.48         | 2.52         |
| Structural plywood                               |             |                |                 |              |              |
| 3/8" thick .....                                 | SF          | 0.012          | 1.10            | 1.21         | 2.31         |
| 1/2" thick .....                                 | SF          | 0.012          | 1.27            | 1.25         | 2.52         |
| 5/8" thick .....                                 | SF          | 0.013          | 1.44            | 1.36         | 2.80         |
| 3/4" thick .....                                 | SF          | 0.015          | 1.70            | 1.48         | 3.18         |
| Gypsum, 1/2" thick .....                         | SF          | 0.012          | 0.62            | 1.25         | 1.87         |
| 5/8" thick .....                                 | SF          | 0.012          | 0.94            | 1.25         | 2.19         |
| Asphalt impregnated fiberboard, 1/2" thick ..... | SF          | 0.012          | 1.07            | 1.25         | 2.32         |
| <b>06175.31 WOOD TRUSSES</b>                     |             |                |                 |              |              |
| WOOD TRUSSES                                     |             |                |                 |              |              |
| Truss, fink, 2x4 members                         |             |                |                 |              |              |
| 3-in-12 slope                                    |             |                |                 |              |              |
| 24' span .....                                   | EA          | 0.686          | 220.00          | 92.00        | 312.00       |
| 26' span .....                                   | EA          | 0.686          | 240.00          | 92.00        | 332.00       |
| 28' span .....                                   | EA          | 0.727          | 260.00          | 98.00        | 358.00       |

## DIVISION 06 WOOD AND PLASTICS

|                                      | Unit | Man-Hrs | Material | Labor  | Total  |
|--------------------------------------|------|---------|----------|--------|--------|
| <b>06175.31 WOOD TRUSSES (Cont.)</b> |      |         |          |        |        |
| 3-in-12 slope                        |      |         |          |        |        |
| 30' span .....                       | EA   | 0.727   | 260.00   | 98.00  | 358.00 |
| 34' span .....                       | EA   | 0.774   | 270.00   | 100.00 | 370.00 |
| 38' span .....                       | EA   | 0.774   | 280.00   | 100.00 | 380.00 |
| 5-in-12 slope                        |      |         |          |        |        |
| 24' span .....                       | EA   | 0.706   | 240.00   | 95.00  | 335.00 |
| 28' span .....                       | EA   | 0.727   | 250.00   | 98.00  | 348.00 |
| 30' span .....                       | EA   | 0.750   | 270.00   | 100.00 | 370.00 |
| 32' span .....                       | EA   | 0.750   | 290.00   | 100.00 | 390.00 |
| 40' span .....                       | EA   | 0.800   | 390.00   | 110.00 | 500.00 |
| Gable, 2x4 members                   |      |         |          |        |        |
| 5-in-12 slope                        |      |         |          |        |        |
| 24' span .....                       | EA   | 0.706   | 270.00   | 95.00  | 365.00 |
| 26' span .....                       | EA   | 0.706   | 290.00   | 95.00  | 385.00 |
| 28' span .....                       | EA   | 0.727   | 330.00   | 98.00  | 428.00 |
| 30' span .....                       | EA   | 0.750   | 350.00   | 100.00 | 450.00 |
| 32' span .....                       | EA   | 0.750   | 360.00   | 100.00 | 460.00 |
| 36' span .....                       | EA   | 0.774   | 380.00   | 100.00 | 480.00 |
| 40' span .....                       | EA   | 0.800   | 410.00   | 110.00 | 520.00 |
| King post type, 2x4 members          |      |         |          |        |        |
| 4-in-12 slope                        |      |         |          |        |        |
| 16' span .....                       | EA   | 0.649   | 160.00   | 87.00  | 247.00 |
| 18' span .....                       | EA   | 0.667   | 180.00   | 90.00  | 270.00 |
| 24' span .....                       | EA   | 0.706   | 190.00   | 95.00  | 285.00 |
| 26' span .....                       | EA   | 0.706   | 210.00   | 95.00  | 305.00 |
| 30' span .....                       | EA   | 0.750   | 260.00   | 100.00 | 360.00 |
| 34' span .....                       | EA   | 0.750   | 280.00   | 100.00 | 380.00 |
| 38' span .....                       | EA   | 0.774   | 330.00   | 100.00 | 430.00 |
| 42' span .....                       | EA   | 0.828   | 390.00   | 110.00 | 500.00 |

## **06202.31 FINISH CARPENTRY**

### FINISH CARPENTRY

#### Mouldings and trim

##### Apron, flat

|                    |    |       |      |      |      |
|--------------------|----|-------|------|------|------|
| 9/16 x 2 .....     | LF | 0.040 | 1.97 | 4.09 | 6.06 |
| 9/16 x 3-1/2 ..... | LF | 0.042 | 4.55 | 4.30 | 8.85 |

##### Base

###### Colonial

|                     |    |       |      |      |      |
|---------------------|----|-------|------|------|------|
| 7/16 x 2-1/4 .....  | LF | 0.040 | 2.58 | 4.09 | 6.67 |
| 7/16 x 3 .....      | LF | 0.040 | 3.34 | 4.09 | 7.43 |
| 7/16 x 3-1/4 .....  | LF | 0.040 | 3.42 | 4.09 | 7.51 |
| 9/16 x 3 .....      | LF | 0.042 | 3.34 | 4.30 | 7.64 |
| 9/16 x 3-1/4 .....  | LF | 0.042 | 3.50 | 4.30 | 7.80 |
| 11/16 x 2-1/4 ..... | LF | 0.044 | 3.67 | 4.54 | 8.21 |

###### Ranch

|                    |    |       |      |      |      |
|--------------------|----|-------|------|------|------|
| 7/16 x 2-1/4 ..... | LF | 0.040 | 2.83 | 4.09 | 6.92 |
| 7/16 x 3-1/4 ..... | LF | 0.040 | 3.34 | 4.09 | 7.43 |
| 9/16 x 2-1/4 ..... | LF | 0.042 | 3.08 | 4.30 | 7.38 |
| 9/16 x 3 .....     | LF | 0.042 | 3.34 | 4.30 | 7.64 |
| 9/16 x 3-1/4 ..... | LF | 0.042 | 3.42 | 4.30 | 7.72 |

##### Casing

|                     |    |       |      |      |      |
|---------------------|----|-------|------|------|------|
| 11/16 x 2-1/2 ..... | LF | 0.036 | 2.66 | 3.71 | 6.37 |
| 11/16 x 3-1/2 ..... | LF | 0.038 | 3.00 | 3.89 | 6.89 |

##### Chair rail

|                    |    |       |      |      |      |
|--------------------|----|-------|------|------|------|
| 9/16 x 2-1/2 ..... | LF | 0.040 | 2.83 | 4.09 | 6.92 |
| 9/16 x 3-1/2 ..... | LF | 0.040 | 3.92 | 4.09 | 8.01 |

##### Closet pole

|                   |    |       |      |      |      |
|-------------------|----|-------|------|------|------|
| 1-1/8" dia. ..... | LF | 0.053 | 1.92 | 5.45 | 7.37 |
| 1-5/8" dia. ..... | LF | 0.053 | 2.83 | 5.45 | 8.28 |

##### Cove

|                     |    |       |      |      |      |
|---------------------|----|-------|------|------|------|
| 9/16 x 1-3/4 .....  | LF | 0.040 | 2.17 | 4.09 | 6.26 |
| 11/16 x 2-3/4 ..... | LF | 0.040 | 3.34 | 4.09 | 7.43 |

##### Crown

|                    |    |       |      |      |      |
|--------------------|----|-------|------|------|------|
| 9/16 x 1-5/8 ..... | LF | 0.053 | 2.57 | 5.45 | 8.02 |
| 9/16 x 2-5/8 ..... | LF | 0.062 | 2.80 | 6.29 | 9.09 |

## DIVISION 06 WOOD AND PLASTICS

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>06202.31 FINISH CARPENTRY (Cont.)</b> |             |                |                 |              |              |
| Crown                                    |             |                |                 |              |              |
| 11/16 x 3-5/8 .....                      | LF          | 0.067          | 3.04            | 6.81         | 9.85         |
| 11/16 x 4-1/4 .....                      | LF          | 0.073          | 4.55            | 7.43         | 11.98        |
| 11/16 x 5-1/4 .....                      | LF          | 0.080          | 5.08            | 8.18         | 13.26        |
| Drip cap                                 |             |                |                 |              |              |
| 1-1/16 x 1-5/8 .....                     | LF          | 0.040          | 2.73            | 4.09         | 6.82         |
| Glass bead                               |             |                |                 |              |              |
| 3/8 x 3/8 .....                          | LF          | 0.050          | 1.08            | 5.11         | 6.19         |
| 1/2 x 9/16 .....                         | LF          | 0.050          | 1.33            | 5.11         | 6.44         |
| 5/8 x 5/8 .....                          | LF          | 0.050          | 1.42            | 5.11         | 6.53         |
| 3/4 x 3/4 .....                          | LF          | 0.050          | 1.67            | 5.11         | 6.78         |
| Half round                               |             |                |                 |              |              |
| 1/2 .....                                | LF          | 0.032          | 1.25            | 3.27         | 4.52         |
| 5/8 .....                                | LF          | 0.032          | 1.67            | 3.27         | 4.94         |
| 3/4 .....                                | LF          | 0.032          | 2.26            | 3.27         | 5.53         |
| Lattice                                  |             |                |                 |              |              |
| 1/4 x 7/8 .....                          | LF          | 0.032          | 0.91            | 3.27         | 4.18         |
| 1/4 x 1-1/8 .....                        | LF          | 0.032          | 0.98            | 3.27         | 4.25         |
| 1/4 x 1-3/8 .....                        | LF          | 0.032          | 1.05            | 3.27         | 4.32         |
| 1/4 x 1-3/4 .....                        | LF          | 0.032          | 1.18            | 3.27         | 4.45         |
| 1/4 x 2 .....                            | LF          | 0.032          | 1.36            | 3.27         | 4.63         |
| Ogee molding                             |             |                |                 |              |              |
| 5/8 x 3/4 .....                          | LF          | 0.040          | 1.36            | 4.09         | 5.45         |
| 11/16 x 1-1/8 .....                      | LF          | 0.040          | 3.19            | 4.09         | 7.28         |
| 11/16 x 1-3/8 .....                      | LF          | 0.040          | 2.50            | 4.09         | 6.59         |
| Parting bead                             |             |                |                 |              |              |
| 3/8 x 7/8 .....                          | LF          | 0.050          | 1.52            | 5.11         | 6.63         |
| Quarter round                            |             |                |                 |              |              |
| 1/4 x 1/4 .....                          | LF          | 0.032          | 0.53            | 3.27         | 3.80         |
| 3/8 x 3/8 .....                          | LF          | 0.032          | 0.76            | 3.27         | 4.03         |
| 1/2 x 1/2 .....                          | LF          | 0.032          | 0.98            | 3.27         | 4.25         |
| 11/16 x 11/16 .....                      | LF          | 0.035          | 0.98            | 3.55         | 4.53         |
| 3/4 x 3/4 .....                          | LF          | 0.035          | 1.81            | 3.55         | 5.36         |
| 1-1/16 x 1-1/16 .....                    | LF          | 0.036          | 1.43            | 3.71         | 5.14         |
| Railings, balusters                      |             |                |                 |              |              |
| 1-1/8 x 1-1/8 .....                      | LF          | 0.080          | 4.86            | 8.18         | 13.04        |
| 1-1/2 x 1-1/2 .....                      | LF          | 0.073          | 5.69            | 7.43         | 13.12        |
| Screen moldings                          |             |                |                 |              |              |
| 1/4 x 3/4 .....                          | LF          | 0.067          | 1.21            | 6.81         | 8.02         |
| 5/8 x 5/16 .....                         | LF          | 0.067          | 1.52            | 6.81         | 8.33         |
| Shoe                                     |             |                |                 |              |              |
| 7/16 x 11/16 .....                       | LF          | 0.032          | 1.51            | 3.27         | 4.78         |
| Sash beads                               |             |                |                 |              |              |
| 1/2 x 3/4 .....                          | LF          | 0.067          | 1.74            | 6.81         | 8.55         |
| 1/2 x 7/8 .....                          | LF          | 0.067          | 1.97            | 6.81         | 8.78         |
| 1/2 x 1-1/8 .....                        | LF          | 0.073          | 2.12            | 7.43         | 9.55         |
| 5/8 x 7/8 .....                          | LF          | 0.073          | 2.12            | 7.43         | 9.55         |
| Stop                                     |             |                |                 |              |              |
| 5/8 x 1-5/8                              |             |                |                 |              |              |
| Colonial .....                           | LF          | 0.050          | 1.05            | 5.11         | 6.16         |
| Ranch .....                              | LF          | 0.050          | 1.05            | 5.11         | 6.16         |
| Stools                                   |             |                |                 |              |              |
| 11/16 x 2-1/4 .....                      | LF          | 0.089          | 4.63            | 9.08         | 13.71        |
| 11/16 x 2-1/2 .....                      | LF          | 0.089          | 4.86            | 9.08         | 13.94        |
| 11/16 x 5-1/4 .....                      | LF          | 0.100          | 5.01            | 10.25        | 15.26        |
| Exterior trim, casing, select pine, 1x3  |             |                |                 |              |              |
| 1x4 .....                                | LF          | 0.040          | 1.65            | 4.09         | 5.74         |
| 1x6 .....                                | LF          | 0.044          | 3.85            | 4.54         | 8.39         |
| 1x8 .....                                | LF          | 0.050          | 5.39            | 5.11         | 10.50        |
| Douglas fir                              |             |                |                 |              |              |
| 1x3 .....                                | LF          | 0.040          | 1.59            | 4.09         | 5.68         |
| 1x4 .....                                | LF          | 0.040          | 1.96            | 4.09         | 6.05         |
| 1x6 .....                                | LF          | 0.044          | 2.58            | 4.54         | 7.12         |
| 1x8 .....                                | LF          | 0.050          | 3.56            | 5.11         | 8.67         |

## DIVISION 06 WOOD AND PLASTICS

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>06202.31 FINISH CARPENTRY (Cont.)</b>            |             |                |                 |              |              |
| Exterior trim, casing                               |             |                |                 |              |              |
| Cellular PVC trim                                   |             |                |                 |              |              |
| 1x3 .....   | LF          | 0.040          | 2.33            | 4.09         | 6.42         |
| 1x4 .....   | LF          | 0.040          | 3.43            | 4.09         | 7.52         |
| 1x6 .....   | LF          | 0.044          | 4.67            | 4.54         | 9.21         |
| 1x8 .....   | LF          | 0.050          | 6.18            | 5.11         | 11.29        |
| Cornices, white pine, #2 or better                  |             |                |                 |              |              |
| 1x2 .....   | LF          | 0.040          | 0.99            | 4.09         | 5.08         |
| 1x4 .....   | LF          | 0.040          | 1.21            | 4.09         | 5.30         |
| 1x6 .....   | LF          | 0.044          | 1.96            | 4.54         | 6.50         |
| 1x8 .....   | LF          | 0.047          | 2.42            | 4.81         | 7.23         |
| 1x10 .....  | LF          | 0.050          | 3.11            | 5.11         | 8.22         |
| 1x12 .....  | LF          | 0.053          | 3.87            | 5.45         | 9.32         |
| Cellular PVC trim                                   |             |                |                 |              |              |
| 1x2 .....   | LF          | 0.040          | 1.71            | 4.09         | 5.80         |
| 1x4 .....   | LF          | 0.040          | 3.43            | 4.09         | 7.52         |
| 1x6 .....   | LF          | 0.044          | 4.67            | 4.54         | 9.21         |
| 1x8 .....   | LF          | 0.047          | 6.18            | 4.81         | 10.99        |
| 1x10 .....  | LF          | 0.050          | 7.70            | 5.11         | 12.81        |
| 1x12 .....  | LF          | 0.053          | 9.28            | 5.45         | 14.73        |
| Cellular PVC 4'x8' sheets, per sheet                |             |                |                 |              |              |
| 1/2" .....  | EA          |                |                 |              | 140.00       |
| 3/4" .....  | EA          |                |                 |              | 160.00       |
| Hardwood trim                                       |             |                |                 |              |              |
| 1x2 .....   | LF          | 0.047          | 2.31            | 4.81         | 7.12         |
| 1x4 .....   | LF          | 0.047          | 4.35            | 4.81         | 9.16         |
| 1x6 .....   | LF          | 0.053          | 6.53            | 5.45         | 11.98        |
| 1x8 .....   | LF          | 0.057          | 8.67            | 5.84         | 14.51        |
| 1x10 .....  | LF          | 0.062          | 11.00           | 6.29         | 17.29        |
| 1x12 .....  | LF          | 0.067          | 13.25           | 6.81         | 20.06        |
| Shelving, pine                                      |             |                |                 |              |              |
| 1x8 .....   | LF          | 0.062          | 2.62            | 6.29         | 8.91         |
| 1x10 .....  | LF          | 0.064          | 3.42            | 6.54         | 9.96         |
| 1x12 .....  | LF          | 0.067          | 4.33            | 6.81         | 11.14        |
| Plywood shelf, 3/4", with edge band, 12" wide ..... | LF          | 0.080          | 4.67            | 8.18         | 12.85        |
| Adjustable shelf, and rod, 12" wide                 |             |                |                 |              |              |
| 3' to 4' long .....                                 | EA          | 0.200          | 31.00           | 20.50        | 51.50        |
| 5' to 8' long .....                                 | EA          | 0.267          | 58.00           | 27.25        | 85.25        |
| Prefinished wood shelves with brackets and supports |             |                |                 |              |              |
| 8" wide   |             |                |                 |              |              |
| 3' long .....                                       | EA          | 0.200          | 91.00           | 20.50        | 111.50       |
| 4' long .....                                       | EA          | 0.200          | 100.00          | 20.50        | 120.50       |
| 6' long .....                                       | EA          | 0.200          | 150.00          | 20.50        | 170.50       |
| 10" wide  |             |                |                 |              |              |
| 3' long .....                                       | EA          | 0.200          | 100.00          | 20.50        | 120.50       |
| 4' long .....                                       | EA          | 0.200          | 150.00          | 20.50        | 170.50       |
| 6' long .....                                       | EA          | 0.200          | 160.00          | 20.50        | 180.50       |
| <b>06220.01 MILLWORK</b>                            |             |                |                 |              |              |
| MILLWORK  |             |                |                 |              |              |
| Countertop, laminated plastic                       |             |                |                 |              |              |
| 25" x 7/8" thick                                    |             |                |                 |              |              |
| Minimum .....                                       | LF          | 0.200          | 19.00           | 20.50        | 39.50        |
| Average .....                                       | LF          | 0.267          | 35.50           | 27.25        | 62.75        |
| Maximum .....                                       | LF          | 0.320          | 52.00           | 32.75        | 84.75        |
| 25" x 1-1/4" thick                                  |             |                |                 |              |              |
| Minimum .....                                       | LF          | 0.267          | 22.75           | 27.25        | 50.00        |
| Average .....                                       | LF          | 0.320          | 45.50           | 32.75        | 78.25        |
| Maximum .....                                       | LF          | 0.400          | 68.00           | 41.00        | 109.00       |
| Add for cutouts .....                               | EA          | 0.500          |                 | 51.00        | 51.00        |
| Backsplash, 4" high, 7/8" thick .....               | LF          | 0.160          | 25.00           | 16.25        | 41.25        |
| Plywood, sanded, A-C                                |             |                |                 |              |              |
| 1/4" thick .....                                    | SF          | 0.027          | 1.58            | 2.72         | 4.30         |
| 3/8" thick .....                                    | SF          | 0.029          | 1.71            | 2.92         | 4.63         |
| 1/2" thick .....                                    | SF          | 0.031          | 1.94            | 3.14         | 5.08         |

## DIVISION 06 WOOD AND PLASTICS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>06220.01 MILLWORK (Cont.)</b>                |             |                |                 |              |              |
| Plywood, sanded                                 |             |                |                 |              |              |
| A-D   |             |                |                 |              |              |
| 1/4" thick .....                                | SF          | 0.027          | 1.50            | 2.72         | 4.22         |
| 3/8" thick .....                                | SF          | 0.029          | 1.71            | 2.92         | 4.63         |
| 1/2" thick .....                                | SF          | 0.031          | 1.86            | 3.14         | 5.00         |
| Base cabinet, 34-1/2" high, 24" deep, hardwood  |             |                |                 |              |              |
| Minimum .....                                   | LF          | 0.320          | 360.00          | 32.75        | 392.75       |
| Average .....                                   | LF          | 0.400          | 410.00          | 41.00        | 451.00       |
| Maximum .....                                   | LF          | 0.533          | 460.00          | 55.00        | 515.00       |
| Wall cabinets                                   |             |                |                 |              |              |
| Minimum .....                                   | LF          | 0.267          | 110.00          | 27.25        | 137.25       |
| Average .....                                   | LF          | 0.320          | 150.00          | 32.75        | 182.75       |
| Maximum .....                                   | LF          | 0.400          | 190.00          | 41.00        | 231.00       |
| <b>06260.01 PANEL WORK</b>                      |             |                |                 |              |              |
| PANEL WORK                                      |             |                |                 |              |              |
| Hardboard, tempered, 1/4" thick                 |             |                |                 |              |              |
| Natural faced .....                             | SF          | 0.020          | 1.63            | 2.04         | 3.67         |
| Plastic faced .....                             | SF          | 0.023          | 2.44            | 2.33         | 4.77         |
| Pegboard, natural                               |             |                |                 |              |              |
| Natural .....                                   | SF          | 0.020          | 2.05            | 2.04         | 4.09         |
| Plastic faced .....                             | SF          | 0.023          | 1.63            | 2.33         | 3.96         |
| Untempered, 1/4" thick                          |             |                |                 |              |              |
| Natural faced .....                             | SF          | 0.020          | 1.37            | 2.04         | 3.41         |
| Plastic faced .....                             | SF          | 0.023          | 2.37            | 2.33         | 4.70         |
| Pegboard, natural                               |             |                |                 |              |              |
| Natural .....                                   | SF          | 0.020          | 1.46            | 2.04         | 3.50         |
| Plastic faced .....                             | SF          | 0.023          | 2.10            | 2.33         | 4.43         |
| Plywood, unfinished, 1/4" thick                 |             |                |                 |              |              |
| Birch   |             |                |                 |              |              |
| Natural .....                                   | SF          | 0.027          | 1.83            | 2.72         | 4.55         |
| Select .....                                    | SF          | 0.027          | 2.69            | 2.72         | 5.41         |
| Knotty pine .....                               | SF          | 0.027          | 3.55            | 2.72         | 6.27         |
| Cedar (closet lining)                           |             |                |                 |              |              |
| Standard boards T&G .....                       | SF          | 0.027          | 4.41            | 2.72         | 7.13         |
| Particle board .....                            | SF          | 0.027          | 2.69            | 2.72         | 5.41         |
| Plywood, prefinished, 1/4" thick, premium grade |             |                |                 |              |              |
| Birch veneer .....                              | SF          | 0.032          | 5.16            | 3.27         | 8.43         |
| Cherry veneer .....                             | SF          | 0.032          | 6.02            | 3.27         | 9.29         |
| Chestnut veneer .....                           | SF          | 0.032          | 7.23            | 3.27         | 10.50        |
| Luan veneer .....                               | SF          | 0.032          | 2.23            | 3.27         | 5.50         |
| Mahogany veneer .....                           | SF          | 0.032          | 5.94            | 3.27         | 9.21         |
| Oak veneer (red) .....                          | SF          | 0.032          | 5.94            | 3.27         | 9.21         |
| Pecan veneer .....                              | SF          | 0.032          | 7.49            | 3.27         | 10.76        |
| Rosewood veneer .....                           | SF          | 0.032          | 5.03            | 3.27         | 8.30         |
| Teak veneer .....                               | SF          | 0.032          | 7.67            | 3.27         | 10.94        |
| Walnut veneer .....                             | SF          | 0.032          | 6.63            | 3.27         | 9.90         |
| <b>06431.31 STAIRWORK</b>                       |             |                |                 |              |              |
| STAIRWORK                                       |             |                |                 |              |              |
| Risers, 1x8, 42" wide                           |             |                |                 |              |              |
| White oak .....                                 | EA          | 0.400          | 46.50           | 41.00        | 87.50        |
| Pine .....                                      | EA          | 0.400          | 41.25           | 41.00        | 82.25        |
| Treads, 1-1/16" x 9-1/2" x 42"                  |             |                |                 |              |              |
| White oak .....                                 | EA          | 0.500          | 56.00           | 51.00        | 107.00       |
| <b>06440.01 COLUMNS</b>                         |             |                |                 |              |              |
| COLUMNS   |             |                |                 |              |              |
| Column, hollow, round wood                      |             |                |                 |              |              |
| 12" diameter                                    |             |                |                 |              |              |
| 10' high .....                                  | EA          | 0.800          | 1,380.00        | 120.00       | 1,500.00     |
| 12' high .....                                  | EA          | 0.857          | 1,690.00        | 130.00       | 1,820.00     |
| 14' high .....                                  | EA          | 0.960          | 2,030.00        | 140.00       | 2,170.00     |
| 16' high .....                                  | EA          | 1.200          | 2,510.00        | 180.00       | 2,690.00     |
| 24" diameter                                    |             |                |                 |              |              |
| 16' high .....                                  | EA          | 1.200          | 5,740.00        | 180.00       | 5,920.00     |
| 18' high .....                                  | EA          | 1.263          | 6,530.00        | 180.00       | 6,710.00     |
| 20' high .....                                  | EA          | 1.263          | 8,020.00        | 180.00       | 8,200.00     |

## DIVISION 06 WOOD AND PLASTICS

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>06440.01 COLUMNS (Cont.)</u></b>             |             |                |                 |              |              |
| 24" diameter                                       |             |                |                 |              |              |
| 22' high .....                                     | EA          | 1.333          | 8,450.00        | 200.00       | 8,650.00     |
| 24' high .....                                     | EA          | 1.333          | 9,220.00        | 200.00       | 9,420.00     |
| <b><u>06448.01 COMPOSITE RESIDENTIAL DECKS</u></b> |             |                |                 |              |              |
| COMPOSITE RESIDENTIAL DECKS                        |             |                |                 |              |              |
| Composite Decking                                  |             |                |                 |              |              |
| 1x6 board  |             |                |                 |              |              |
| Minimum .....                                      | SF          | 0.067          | 5.50            | 6.81         | 12.31        |
| Average .....                                      | SF          | 0.080          | 6.60            | 8.18         | 14.78        |
| Maximum .....                                      | SF          | 0.100          | 8.25            | 10.25        | 18.50        |
| Post   |             |                |                 |              |              |
| 4x4 .....  | EA          | 0.400          | 49.50           | 41.00        | 90.50        |
| 6x6 .....  | EA          | 0.533          | 83.00           | 55.00        | 138.00       |
| Post fixtures                                      |             |                |                 |              |              |
| Shoe .....   | EA          | 0.080          | 5.22            | 8.18         | 13.40        |
| Cap .....  | EA          | 0.080          | 7.70            | 8.18         | 15.88        |
| Railing, including rails and balusters             |             |                |                 |              |              |
| Minimum .....                                      | LF          | 0.133          | 44.00           | 13.75        | 57.75        |
| Average .....                                      | LF          | 0.160          | 55.00           | 16.25        | 71.25        |
| Maximum .....                                      | LF          | 0.200          | 66.00           | 20.50        | 86.50        |

## DIVISION 07 THERMAL AND MOISTURE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>07110.01 DAMPROOFING</b>                |             |                |                 |              |              |
| DAMPROOFING                                |             |                |                 |              |              |
| Silicone damproofing, sprayed on           |             |                |                 |              |              |
| Concrete surface                           |             |                |                 |              |              |
| 1 coat .....                               | SF          | 0.004          | 0.68            | 0.35         | 1.03         |
| 2 coats .....                              | SF          | 0.006          | 1.12            | 0.49         | 1.61         |
| Concrete block                             |             |                |                 |              |              |
| 1 coat .....                               | SF          | 0.005          | 0.68            | 0.42         | 1.10         |
| 2 coats .....                              | SF          | 0.007          | 1.12            | 0.58         | 1.70         |
| Brick                                      |             |                |                 |              |              |
| 1 coat .....                               | SF          | 0.006          | 0.78            | 0.49         | 1.27         |
| 2 coats .....                              | SF          | 0.008          | 1.21            | 0.64         | 1.85         |
| <b>07111.31 BITUMINOUS DAMPROOFING</b>     |             |                |                 |              |              |
| BITUMINOUS DAMPROOFING                     |             |                |                 |              |              |
| Building paper, asphalt felt               |             |                |                 |              |              |
| 15 lb .....                                | SF          | 0.032          | 0.22            | 2.56         | 2.78         |
| 30 lb .....                                | SF          | 0.033          | 0.40            | 2.66         | 3.06         |
| Asphalt, troweled, cold, primer plus       |             |                |                 |              |              |
| 1 coat .....                               | SF          | 0.027          | 0.74            | 2.13         | 2.87         |
| 2 coats .....                              | SF          | 0.040          | 1.57            | 3.20         | 4.77         |
| 3 coats .....                              | SF          | 0.050          | 2.25            | 4.00         | 6.25         |
| Fibrous asphalt, hot troweled, primer plus |             |                |                 |              |              |
| 1 coat .....                               | SF          | 0.032          | 0.74            | 2.56         | 3.30         |
| 2 coats .....                              | SF          | 0.044          | 1.57            | 3.55         | 5.12         |
| 3 coats .....                              | SF          | 0.057          | 2.25            | 4.57         | 6.82         |
| Asphaltic paint damproofing, per coat      |             |                |                 |              |              |
| Brush on .....                             | SF          | 0.011          | 0.38            | 0.91         | 1.29         |
| Spray on .....                             | SF          | 0.009          | 0.55            | 0.71         | 1.26         |
| <b>07111.61 PARGING / MASONRY PLASTER</b>  |             |                |                 |              |              |
| PARGING / MASONRY PLASTER                  |             |                |                 |              |              |
| Parging                                    |             |                |                 |              |              |
| 1/2" thick .....                           | SF          | 0.053          | 0.29            | 5.20         | 5.49         |
| 3/4" thick .....                           | SF          | 0.067          | 0.37            | 6.50         | 6.87         |
| 1" thick .....                             | SF          | 0.080          | 0.50            | 7.80         | 8.30         |
| <b>07130.01 WATERPROOFING</b>              |             |                |                 |              |              |
| WATERPROOFING                              |             |                |                 |              |              |
| Membrane waterproofing, elastomeric        |             |                |                 |              |              |
| Butyl                                      |             |                |                 |              |              |
| 1/32" thick .....                          | SF          | 0.032          | 2.01            | 2.56         | 4.57         |
| 1/16" thick .....                          | SF          | 0.033          | 2.61            | 2.66         | 5.27         |
| Neoprene                                   |             |                |                 |              |              |
| 1/32" thick .....                          | SF          | 0.032          | 3.30            | 2.56         | 5.86         |
| 1/16" thick .....                          | SF          | 0.033          | 4.73            | 2.66         | 7.39         |
| Plastic vapor barrier (polyethylene)       |             |                |                 |              |              |
| 4 mil .....                                | SF          | 0.003          | 0.05            | 0.25         | 0.30         |
| 6 mil .....                                | SF          | 0.003          | 0.08            | 0.25         | 0.33         |
| 10 mil .....                               | SF          | 0.004          | 0.13            | 0.32         | 0.45         |
| Bituminous membrane, asphalt felt, 15 lb.  |             |                |                 |              |              |
| One ply .....                              | SF          | 0.020          | 0.91            | 1.60         | 2.51         |
| Two ply .....                              | SF          | 0.024          | 1.07            | 1.94         | 3.01         |
| Three ply .....                            | SF          | 0.029          | 1.34            | 2.28         | 3.62         |
| Bentonite waterproofing, panels            |             |                |                 |              |              |
| 3/16" thick .....                          | SF          | 0.020          | 2.25            | 1.60         | 3.85         |
| 1/4" thick .....                           | SF          | 0.020          | 2.56            | 1.60         | 4.16         |
| <b>07211.31 BOARD INSULATION</b>           |             |                |                 |              |              |
| BOARD INSULATION                           |             |                |                 |              |              |
| Perlite board, roof                        |             |                |                 |              |              |
| 1.00" thick, R2.78 .....                   | SF          | 0.007          | 0.67            | 0.53         | 1.20         |
| 1.50" thick, R4.17 .....                   | SF          | 0.007          | 1.04            | 0.55         | 1.59         |
| Rigid urethane                             |             |                |                 |              |              |
| 1" thick, R6.67 .....                      | SF          | 0.007          | 1.15            | 0.53         | 1.68         |
| 1.50" thick, R11.11 .....                  | SF          | 0.007          | 1.56            | 0.55         | 2.11         |

## DIVISION 07 THERMAL AND MOISTURE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>07211.31 BOARD INSULATION (Cont.)</b> |             |                |                 |              |              |
| Polystyrene                              |             |                |                 |              |              |
| 1.0" thick, R4.17 .....                  | SF          | 0.007          | 0.77            | 0.53         | 1.30         |
| 1.5" thick, R6.26 .....                  | SF          | 0.007          | 1.17            | 0.55         | 1.72         |
| <b>07211.61 BATT INSULATION</b>          |             |                |                 |              |              |
| BATT INSULATION                          |             |                |                 |              |              |
| Ceiling, fiberglass, unfaced             |             |                |                 |              |              |
| 3-1/2" thick, R11 .....                  | SF          | 0.009          | 0.45            | 0.75         | 1.20         |
| 6" thick, R19 .....                      | SF          | 0.011          | 0.59            | 0.85         | 1.44         |
| 9" thick, R30 .....                      | SF          | 0.012          | 1.15            | 0.98         | 2.13         |
| Suspended ceiling, unfaced               |             |                |                 |              |              |
| 3-1/2" thick, R11 .....                  | SF          | 0.009          | 0.49            | 0.71         | 1.20         |
| 6" thick, R19 .....                      | SF          | 0.010          | 0.65            | 0.80         | 1.45         |
| 9" thick, R30 .....                      | SF          | 0.011          | 1.27            | 0.91         | 2.18         |
| Crawl space, unfaced                     |             |                |                 |              |              |
| 3-1/2" thick, R11 .....                  | SF          | 0.012          | 0.49            | 0.98         | 1.47         |
| 6" thick, R19 .....                      | SF          | 0.013          | 0.65            | 1.06         | 1.71         |
| 9" thick, R30 .....                      | SF          | 0.015          | 1.27            | 1.16         | 2.43         |
| Wall, fiberglass                         |             |                |                 |              |              |
| Paper backed                             |             |                |                 |              |              |
| 2" thick, R7 .....                       | SF          | 0.008          | 0.36            | 0.67         | 1.03         |
| 3" thick, R11 .....                      | SF          | 0.009          | 0.40            | 0.71         | 1.11         |
| 4" thick, R13 .....                      | SF          | 0.009          | 0.65            | 0.75         | 1.40         |
| 6" thick, R19 .....                      | SF          | 0.010          | 0.97            | 0.80         | 1.77         |
| 9" thick, R30 .....                      | SF          | 0.010          | 1.76            | 0.80         | 2.56         |
| 12" thick, R38 .....                     | SF          | 0.010          | 2.20            | 0.80         | 3.00         |
| Foil backed, 1 side                      |             |                |                 |              |              |
| 2" thick, R8 .....                       | SF          | 0.008          | 0.70            | 0.67         | 1.37         |
| 3" thick, R11 .....                      | SF          | 0.009          | 0.75            | 0.71         | 1.46         |
| 4" thick, R13 .....                      | SF          | 0.009          | 0.78            | 0.75         | 1.53         |
| 6" thick, R19 .....                      | SF          | 0.010          | 1.03            | 0.80         | 1.83         |
| 9" thick, R30 .....                      | SF          | 0.010          | 1.96            | 0.80         | 2.76         |
| 12" thick, R38 .....                     | SF          | 0.010          | 2.31            | 0.80         | 3.11         |
| FSK backed 2 sides                       |             |                |                 |              |              |
| 2" thick, R8 .....                       | SF          | 0.009          | 0.80            | 0.75         | 1.55         |
| 3" thick, R11 .....                      | SF          | 0.010          | 1.01            | 0.80         | 1.81         |
| 4" thick, R13 .....                      | SF          | 0.011          | 1.20            | 0.85         | 2.05         |
| 6" thick, R19 .....                      | SF          | 0.011          | 1.29            | 0.91         | 2.20         |
| 9" thick, R30 .....                      | SF          | 0.010          | 2.58            | 0.80         | 3.38         |
| 12" thick, R38 .....                     | SF          | 0.010          | 3.30            | 0.80         | 4.10         |
| Unfaced                                  |             |                |                 |              |              |
| 2" thick, R8 .....                       | SF          | 0.008          | 0.44            | 0.67         | 1.11         |
| 3" thick, R11 .....                      | SF          | 0.009          | 0.50            | 0.71         | 1.21         |
| 4" thick, R13 .....                      | SF          | 0.009          | 0.54            | 0.75         | 1.29         |
| 6" thick, R19 .....                      | SF          | 0.010          | 0.70            | 0.80         | 1.50         |
| 9" thick, R30 .....                      | SF          | 0.010          | 1.32            | 0.80         | 2.12         |
| 12" thick, R38 .....                     | SF          | 0.010          | 1.96            | 0.80         | 2.76         |
| Mineral wool batts                       |             |                |                 |              |              |
| Paper backed                             |             |                |                 |              |              |
| 2" thick, R6 .....                       | SF          | 0.008          | 0.48            | 0.67         | 1.15         |
| 4" thick, R12 .....                      | SF          | 0.009          | 1.09            | 0.71         | 1.80         |
| 6" thick, R19 .....                      | SF          | 0.010          | 1.36            | 0.80         | 2.16         |
| Unfaced                                  |             |                |                 |              |              |
| 1" thick, R3 .....                       | SF          | 0.008          | 0.27            | 0.67         | 0.94         |
| 1-1/2" thick, R4 .....                   | SF          | 0.009          | 0.38            | 0.73         | 1.11         |
| 2" thick, R6 .....                       | SF          | 0.009          | 0.48            | 0.75         | 1.23         |
| 2-1/2" thick, R7 .....                   | SF          | 0.009          | 0.61            | 0.75         | 1.36         |
| 3" thick, R9 .....                       | SF          | 0.010          | 0.75            | 0.77         | 1.52         |
| 3-1/2" thick, R11 .....                  | SF          | 0.010          | 0.92            | 0.77         | 1.69         |
| 4" thick, R12 .....                      | SF          | 0.010          | 1.08            | 0.80         | 1.88         |
| 6" thick, R19 .....                      | SF          | 0.011          | 1.36            | 0.85         | 2.21         |
| Rigid Safing, flame resistant, unfaced   |             |                |                 |              |              |
| 1" thick, R4 .....                       | SF          | 0.009          | 1.29            | 0.75         | 2.04         |
| 2" thick, R8 .....                       | SF          | 0.010          | 1.36            | 0.80         | 2.16         |
| 4" thick, R16 .....                      | SF          | 0.011          | 1.76            | 0.85         | 2.61         |

## DIVISION 07 THERMAL AND MOISTURE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>07211.61 BATT INSULATION (Cont.)</b>            |             |                |                 |              |              |
| Fasteners, self adhering, attached to ceiling deck |             |                |                 |              |              |
| 2-1/2" long .....                                  | EA          | 0.013          | 0.27            | 1.06         | 1.33         |
| 4-1/2" long .....                                  | EA          | 0.015          | 0.30            | 1.16         | 1.46         |
| Capped, self-locking washers .....                 | EA          | 0.008          | 0.27            | 0.64         | 0.91         |

### **07212.31 LOOSE FILL INSULATION**

#### LOOSE FILL INSULATION

##### Blown-in type

###### Fiberglass

|                     |    |       |      |      |      |
|---------------------|----|-------|------|------|------|
| 5" thick, R11 ..... | SF | 0.007 | 0.41 | 0.53 | 0.94 |
| 6" thick, R13 ..... | SF | 0.008 | 0.48 | 0.64 | 1.12 |
| 9" thick, R19 ..... | SF | 0.011 | 0.58 | 0.91 | 1.49 |

###### Rockwool, attic application

|                      |    |       |      |      |      |
|----------------------|----|-------|------|------|------|
| 6" thick, R13 .....  | SF | 0.008 | 0.38 | 0.64 | 1.02 |
| 8" thick, R19 .....  | SF | 0.010 | 0.45 | 0.80 | 1.25 |
| 10" thick, R22 ..... | SF | 0.012 | 0.53 | 0.98 | 1.51 |
| 12" thick, R26 ..... | SF | 0.013 | 0.68 | 1.06 | 1.74 |
| 15" thick, R30 ..... | SF | 0.016 | 0.82 | 1.28 | 2.10 |

##### Poured type

###### Fiberglass

|                     |    |       |      |      |      |
|---------------------|----|-------|------|------|------|
| 1" thick, R4 .....  | SF | 0.005 | 0.45 | 0.40 | 0.85 |
| 2" thick, R8 .....  | SF | 0.006 | 0.84 | 0.45 | 1.29 |
| 3" thick, R12 ..... | SF | 0.007 | 1.24 | 0.53 | 1.77 |
| 4" thick, R16 ..... | SF | 0.008 | 1.63 | 0.64 | 2.27 |

###### Mineral wool

|                     |    |       |      |      |      |
|---------------------|----|-------|------|------|------|
| 1" thick, R3 .....  | SF | 0.005 | 0.55 | 0.40 | 0.95 |
| 2" thick, R6 .....  | SF | 0.006 | 1.01 | 0.45 | 1.46 |
| 3" thick, R9 .....  | SF | 0.007 | 1.54 | 0.53 | 2.07 |
| 4" thick, R12 ..... | SF | 0.008 | 1.80 | 0.64 | 2.44 |

###### Vermiculite or perlite

|                      |    |       |      |      |      |
|----------------------|----|-------|------|------|------|
| 2" thick, R4.8 ..... | SF | 0.006 | 0.98 | 0.45 | 1.43 |
| 3" thick, R7.2 ..... | SF | 0.007 | 1.39 | 0.53 | 1.92 |
| 4" thick, R9.6 ..... | SF | 0.008 | 1.81 | 0.64 | 2.45 |

###### Masonry, poured vermiculite or perlite

|                 |    |       |      |      |      |
|-----------------|----|-------|------|------|------|
| 4" block .....  | SF | 0.004 | 0.59 | 0.32 | 0.91 |
| 6" block .....  | SF | 0.005 | 0.90 | 0.40 | 1.30 |
| 8" block .....  | SF | 0.006 | 1.31 | 0.45 | 1.76 |
| 10" block ..... | SF | 0.006 | 1.73 | 0.49 | 2.22 |
| 12" block ..... | SF | 0.007 | 2.16 | 0.53 | 2.69 |

### **07212.91 SPRAYED INSULATION**

#### SPRAYED INSULATION

##### Foam, sprayed on

###### Polystyrene

|                    |    |       |      |      |      |
|--------------------|----|-------|------|------|------|
| 1" thick, R4 ..... | SF | 0.008 | 0.91 | 0.64 | 1.55 |
| 2" thick, R8 ..... | SF | 0.011 | 1.78 | 0.85 | 2.63 |

###### Urethane

|                    |    |       |      |      |      |
|--------------------|----|-------|------|------|------|
| 1" thick, R4 ..... | SF | 0.008 | 0.78 | 0.64 | 1.42 |
| 2" thick, R8 ..... | SF | 0.011 | 1.50 | 0.85 | 2.35 |

### **07260.01 VAPOR BARRIERS**

#### VAPOR BARRIERS

##### Vapor barrier, polyethylene

|              |    |       |      |      |      |
|--------------|----|-------|------|------|------|
| 2 mil .....  | SF | 0.004 | 0.02 | 0.32 | 0.34 |
| 6 mil .....  | SF | 0.004 | 0.08 | 0.32 | 0.40 |
| 8 mil .....  | SF | 0.004 | 0.09 | 0.35 | 0.44 |
| 10 mil ..... | SF | 0.004 | 0.11 | 0.35 | 0.46 |

### **07311.31 ASPHALT SHINGLES**

#### ASPHALT SHINGLES

##### Standard asphalt shingles, strip shingles

|                     |    |       |        |        |        |
|---------------------|----|-------|--------|--------|--------|
| 210 lb/square ..... | SQ | 0.800 | 130.00 | 78.00  | 208.00 |
| 235 lb/square ..... | SQ | 0.889 | 140.00 | 87.00  | 227.00 |
| 240 lb/square ..... | SQ | 1.000 | 140.00 | 98.00  | 238.00 |
| 260 lb/square ..... | SQ | 1.143 | 200.00 | 110.00 | 310.00 |
| 300 lb/square ..... | SQ | 1.333 | 220.00 | 130.00 | 350.00 |
| 385 lb/square ..... | SQ | 1.600 | 310.00 | 160.00 | 470.00 |

## DIVISION 07 THERMAL AND MOISTURE

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>07311.31 ASPHALT SHINGLES (Cont.)</b> |             |                |                 |              |              |
| Roll roofing, mineral surface            |             |                |                 |              |              |
| 90 lb .....                              | SQ          | 0.571          | 58.00           | 56.00        | 114.00       |
| 110 lb .....                             | SQ          | 0.667          | 96.00           | 65.00        | 161.00       |
| 140 lb .....                             | SQ          | 0.800          | 99.00           | 78.00        | 177.00       |
| Roofing, accessories                     |             |                |                 |              |              |
| 8" Starter strip (roll) .....            | LF          | 0.020          | 1.15            | 1.95         | 3.10         |
| Starter shingle .....                    | LF          | 0.023          | 0.55            | 2.23         | 2.78         |
| Ice & water shield .....                 | SF          | 0.027          | 0.99            | 2.60         | 3.59         |

### **07311.61 METAL SHINGLES**

|                          |    |       |          |        |          |
|--------------------------|----|-------|----------|--------|----------|
| METAL SHINGLES           |    |       |          |        |          |
| Aluminum, .020" thick    |    |       |          |        |          |
| Plain .....              | SQ | 1.600 | 290.00   | 160.00 | 450.00   |
| Colors .....             | SQ | 1.600 | 320.00   | 160.00 | 480.00   |
| Steel, galvanized        |    |       |          |        |          |
| 26 ga.                   |    |       |          |        |          |
| Plain .....              | SQ | 1.600 | 360.00   | 160.00 | 520.00   |
| Colors .....             | SQ | 1.600 | 460.00   | 160.00 | 620.00   |
| 24 ga.                   |    |       |          |        |          |
| Plain .....              | SQ | 1.600 | 420.00   | 160.00 | 580.00   |
| Colors .....             | SQ | 1.600 | 530.00   | 160.00 | 690.00   |
| Porcelain enamel, 22 ga. |    |       |          |        |          |
| Minimum .....            | SQ | 2.000 | 870.00   | 200.00 | 1,070.00 |
| Average .....            | SQ | 2.000 | 1,000.00 | 200.00 | 1,200.00 |
| Maximum .....            | SQ | 2.000 | 1,120.00 | 200.00 | 1,320.00 |

### **07312.61 SLATE SHINGLES**

|                |    |       |          |        |          |
|----------------|----|-------|----------|--------|----------|
| SLATE SHINGLES |    |       |          |        |          |
| Slate shingles |    |       |          |        |          |
| Pennsylvania   |    |       |          |        |          |
| Ribbon .....   | SQ | 4.000 | 600.00   | 390.00 | 990.00   |
| Clear .....    | SQ | 4.000 | 770.00   | 390.00 | 1,160.00 |
| Vermont        |    |       |          |        |          |
| Black .....    | SQ | 4.000 | 710.00   | 390.00 | 1,100.00 |
| Gray .....     | SQ | 4.000 | 780.00   | 390.00 | 1,170.00 |
| Green .....    | SQ | 4.000 | 800.00   | 390.00 | 1,190.00 |
| Red .....      | SQ | 4.000 | 1,440.00 | 390.00 | 1,830.00 |

### **07312.91 WOOD SHINGLES**

|                              |    |       |        |        |        |
|------------------------------|----|-------|--------|--------|--------|
| WOOD SHINGLES                |    |       |        |        |        |
| Wood shingles, on roofs      |    |       |        |        |        |
| White cedar, #1 shingles     |    |       |        |        |        |
| 4" exposure .....            | SQ | 2.667 | 270.00 | 260.00 | 530.00 |
| 5" exposure .....            | SQ | 2.000 | 240.00 | 200.00 | 440.00 |
| #2 shingles                  |    |       |        |        |        |
| 4" exposure .....            | SQ | 2.667 | 190.00 | 260.00 | 450.00 |
| 5" exposure .....            | SQ | 2.000 | 160.00 | 200.00 | 360.00 |
| Resquared and rebutted       |    |       |        |        |        |
| 4" exposure .....            | SQ | 2.667 | 240.00 | 260.00 | 500.00 |
| 5" exposure .....            | SQ | 2.000 | 200.00 | 200.00 | 400.00 |
| On walls                     |    |       |        |        |        |
| White cedar, #1 shingles     |    |       |        |        |        |
| 4" exposure .....            | SQ | 4.000 | 270.00 | 390.00 | 660.00 |
| 5" exposure .....            | SQ | 3.200 | 240.00 | 310.00 | 550.00 |
| 6" exposure .....            | SQ | 2.667 | 200.00 | 260.00 | 460.00 |
| #2 shingles                  |    |       |        |        |        |
| 4" exposure .....            | SQ | 4.000 | 190.00 | 390.00 | 580.00 |
| 5" exposure .....            | SQ | 3.200 | 160.00 | 310.00 | 470.00 |
| 6" exposure .....            | SQ | 2.667 | 130.00 | 260.00 | 390.00 |
| Add for fire retarding ..... | SQ |       |        |        | 120.00 |

### **07312.92 WOOD SHAKES**

|   |    |       |        |        |          |
|---|----|-------|--------|--------|----------|
| WOOD SHAKES                                 |    |       |        |        |          |
| Shakes, hand split, 24" red cedar, on roofs |    |       |        |        |          |
| 5" exposure .....                           | SQ | 4.000 | 800.00 | 390.00 | 1,190.00 |
| 7" exposure .....                           | SQ | 3.200 | 750.00 | 310.00 | 1,060.00 |
| 9" exposure .....                           | SQ | 2.667 | 680.00 | 260.00 | 940.00   |

## DIVISION 07 THERMAL AND MOISTURE

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u>   |
|---|-------------|----------------|-----------------|--------------|----------------|
| <b>07312.92 WOOD SHAKES (Cont.)</b>         |             |                |                 |              |                |
| Shakes, hand split, 24" red cedar, on roofs |             |                |                 |              |                |
| On walls                                    |             |                |                 |              |                |
| 6" exposure .....                           | SQ          | ..... 4.000    | ..... 750.00    | ..... 390.00 | ..... 1,140.00 |
| 8" exposure .....                           | SQ          | ..... 3.200    | ..... 710.00    | ..... 310.00 | ..... 1,020.00 |
| 10" exposure .....                          | SQ          | ..... 2.667    | ..... 680.00    | ..... 260.00 | ..... 940.00   |
| Add for fire retarding .....                | SQ          | .....          | .....           | .....        | ..... 120.00   |
| <b>07420.05 METAL SIDING PANELS</b>         |             |                |                 |              |                |
| METAL SIDING PANELS                         |             |                |                 |              |                |
| Aluminum siding panels                      |             |                |                 |              |                |
| Corrugated                                  |             |                |                 |              |                |
| Plain finish                                |             |                |                 |              |                |
| .024" .....                                 | SF          | ..... 0.032    | ..... 2.23      | ..... 3.31   | ..... 5.54     |
| .032" .....                                 | SF          | ..... 0.032    | ..... 2.62      | ..... 3.31   | ..... 5.93     |
| Painted finish                              |             |                |                 |              |                |
| .024" .....                                 | SF          | ..... 0.032    | ..... 2.78      | ..... 3.31   | ..... 6.09     |
| .032" .....                                 | SF          | ..... 0.032    | ..... 3.19      | ..... 3.31   | ..... 6.50     |
| Steel siding panels                         |             |                |                 |              |                |
| Corrugated                                  |             |                |                 |              |                |
| 22 ga. .....                                | SF          | ..... 0.053    | ..... 2.73      | ..... 5.52   | ..... 8.25     |
| 24 ga. .....                                | SF          | ..... 0.053    | ..... 2.49      | ..... 5.52   | ..... 8.01     |
| Ribbed, sheets, galvanized                  |             |                |                 |              |                |
| 22 ga. .....                                | SF          | ..... 0.032    | ..... 3.42      | ..... 3.31   | ..... 6.73     |
| 24 ga. .....                                | SF          | ..... 0.032    | ..... 3.01      | ..... 3.31   | ..... 6.32     |
| Primed                                      |             |                |                 |              |                |
| 24 ga. .....                                | SF          | ..... 0.032    | ..... 3.01      | ..... 3.31   | ..... 6.32     |
| 26 ga. .....                                | SF          | ..... 0.032    | ..... 2.46      | ..... 3.31   | ..... 5.77     |
| <b>07462.31 WOOD SIDING</b>                 |             |                |                 |              |                |
| WOOD SIDING                                 |             |                |                 |              |                |
| Beveled siding, cedar                       |             |                |                 |              |                |
| A grade                                     |             |                |                 |              |                |
| 1/2 x 8 .....                               | SF          | ..... 0.032    | ..... 5.00      | ..... 3.27   | ..... 8.27     |
| 3/4 x 10 .....                              | SF          | ..... 0.027    | ..... 6.43      | ..... 2.72   | ..... 9.15     |
| Clear                                       |             |                |                 |              |                |
| 1/2 x 6 .....                               | SF          | ..... 0.040    | ..... 5.44      | ..... 4.09   | ..... 9.53     |
| 1/2 x 8 .....                               | SF          | ..... 0.032    | ..... 5.56      | ..... 3.27   | ..... 8.83     |
| 3/4 x 10 .....                              | SF          | ..... 0.027    | ..... 7.45      | ..... 2.72   | ..... 10.17    |
| B grade                                     |             |                |                 |              |                |
| 1/2 x 6 .....                               | SF          | ..... 0.040    | ..... 5.26      | ..... 4.09   | ..... 9.35     |
| 1/2 x 8 .....                               | SF          | ..... 0.032    | ..... 5.94      | ..... 3.27   | ..... 9.21     |
| 3/4 x 10 .....                              | SF          | ..... 0.027    | ..... 5.60      | ..... 2.72   | ..... 8.32     |
| Board and batten                            |             |                |                 |              |                |
| Cedar                                       |             |                |                 |              |                |
| 1x6 .....                                   | SF          | ..... 0.040    | ..... 6.84      | ..... 4.09   | ..... 10.93    |
| 1x8 .....                                   | SF          | ..... 0.032    | ..... 6.22      | ..... 3.27   | ..... 9.49     |
| 1x10 .....                                  | SF          | ..... 0.029    | ..... 5.62      | ..... 2.92   | ..... 8.54     |
| 1x12 .....                                  | SF          | ..... 0.026    | ..... 5.04      | ..... 2.63   | ..... 7.67     |
| Pine  |             |                |                 |              |                |
| 1x6 .....                                   | SF          | ..... 0.040    | ..... 2.25      | ..... 4.09   | ..... 6.34     |
| 1x8 .....                                   | SF          | ..... 0.032    | ..... 2.20      | ..... 3.27   | ..... 5.47     |
| 1x10 .....                                  | SF          | ..... 0.029    | ..... 2.11      | ..... 2.92   | ..... 5.03     |
| 1x12 .....                                  | SF          | ..... 0.026    | ..... 1.94      | ..... 2.63   | ..... 4.57     |
| Redwood                                     |             |                |                 |              |                |
| 1x6 .....                                   | SF          | ..... 0.040    | ..... 7.44      | ..... 4.09   | ..... 11.53    |
| 1x8 .....                                   | SF          | ..... 0.032    | ..... 6.93      | ..... 3.27   | ..... 10.20    |
| 1x10 .....                                  | SF          | ..... 0.029    | ..... 6.43      | ..... 2.92   | ..... 9.35     |
| 1x12 .....                                  | SF          | ..... 0.026    | ..... 5.93      | ..... 2.63   | ..... 8.56     |
| Tongue and groove                           |             |                |                 |              |                |
| Cedar                                       |             |                |                 |              |                |
| 1x4 .....                                   | SF          | ..... 0.044    | ..... 7.39      | ..... 4.54   | ..... 11.93    |
| 1x6 .....                                   | SF          | ..... 0.042    | ..... 7.11      | ..... 4.30   | ..... 11.41    |
| 1x8 .....                                   | SF          | ..... 0.040    | ..... 6.67      | ..... 4.09   | ..... 10.76    |
| 1x10 .....                                  | SF          | ..... 0.038    | ..... 6.55      | ..... 3.89   | ..... 10.44    |

## DIVISION 07 THERMAL AND MOISTURE

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>07462.31 WOOD SIDING (Cont.)</b>                   |             |                |                 |              |              |
| Tongue and groove                                     |             |                |                 |              |              |
| Pine  |             |                |                 |              |              |
| 1x4 .....   | SF          | 0.044          | 2.44            | 4.54         | 6.98         |
| 1x6 .....   | SF          | 0.042          | 2.31            | 4.30         | 6.61         |
| 1x8 .....   | SF          | 0.040          | 2.16            | 4.09         | 6.25         |
| 1x10 .....  | SF          | 0.038          | 2.05            | 3.89         | 5.94         |
| Redwood   |             |                |                 |              |              |
| 1x4 .....   | SF          | 0.044          | 6.80            | 4.54         | 11.34        |
| 1x6 .....   | SF          | 0.042          | 6.55            | 4.30         | 10.85        |
| 1x8 .....   | SF          | 0.040          | 6.33            | 4.09         | 10.42        |
| 1x10 .....  | SF          | 0.038          | 6.04            | 3.89         | 9.93         |
| <b>07462.91 PLYWOOD SIDING</b>                        |             |                |                 |              |              |
| PLYWOOD SIDING  |             |                |                 |              |              |
| Rough sawn cedar, 3/8" thick .....                    | SF          | 0.027          | 2.16            | 2.72         | 4.88         |
| Fir, 3/8" thick .....                                 | SF          | 0.027          | 1.19            | 2.72         | 3.91         |
| Texture 1-11, 5/8" thick                              |             |                |                 |              |              |
| Cedar .....   | SF          | 0.029          | 2.92            | 2.92         | 5.84         |
| Fir .....   | SF          | 0.029          | 2.04            | 2.92         | 4.96         |
| Redwood .....   | SF          | 0.029          | 3.14            | 2.79         | 5.93         |
| Southern Yellow Pine .....                            | SF          | 0.029          | 1.66            | 2.92         | 4.58         |
| <b>07463.31 PLASTIC SIDING</b>                        |             |                |                 |              |              |
| PLASTIC SIDING  |             |                |                 |              |              |
| Horizontal vinyl siding, solid                        |             |                |                 |              |              |
| 8" wide   |             |                |                 |              |              |
| Standard .....  | SF          | 0.031          | 1.76            | 3.14         | 4.90         |
| Insulated .....                                       | SF          | 0.031          | 2.13            | 3.14         | 5.27         |
| 10" wide  |             |                |                 |              |              |
| Standard .....  | SF          | 0.029          | 1.82            | 2.92         | 4.74         |
| Insulated .....                                       | SF          | 0.029          | 2.18            | 2.92         | 5.10         |
| Vinyl moldings for doors and windows .....            | LF          | 0.032          | 0.87            | 3.27         | 4.14         |
| <b>07511.31 BUILT-UP ASPHALT ROOFING</b>              |             |                |                 |              |              |
| BUILT-UP ASPHALT ROOFING                              |             |                |                 |              |              |
| Built-up roofing, asphalt felt, including gravel      |             |                |                 |              |              |
| 2 ply .....   | SQ          | 2.000          | 120.00          | 200.00       | 320.00       |
| 3 ply .....   | SQ          | 2.667          | 160.00          | 260.00       | 420.00       |
| 4 ply .....   | SQ          | 3.200          | 230.00          | 310.00       | 540.00       |
| Cant strip, 4" x 4"                                   |             |                |                 |              |              |
| Treated wood .....                                    | LF          | 0.023          | 3.38            | 2.23         | 5.61         |
| Foamglass .....                                       | LF          | 0.020          | 2.90            | 1.95         | 4.85         |
| New gravel for built-up roofing, 400 lb/sq .....      | SQ          | 1.600          | 59.00           | 160.00       | 219.00       |
| <b>07530.01 SINGLE-PLY ROOFING</b>                    |             |                |                 |              |              |
| SINGLE-PLY ROOFING                                    |             |                |                 |              |              |
| Elastic sheet roofing                                 |             |                |                 |              |              |
| Neoprene, 1/16" thick .....                           | SF          | 0.010          | 2.83            | 0.97         | 3.80         |
| PVC   |             |                |                 |              |              |
| 45 mil .....  | SF          | 0.010          | 2.34            | 0.97         | 3.31         |
| Flashing  |             |                |                 |              |              |
| Pipe flashing, 90 mil thick                           |             |                |                 |              |              |
| 1" pipe .....   | EA          | 0.200          | 34.00           | 19.50        | 53.50        |
| Neoprene flashing, 60 mil thick strip                 |             |                |                 |              |              |
| 6" wide .....   | LF          | 0.067          | 2.06            | 6.51         | 8.57         |
| 12" wide .....  | LF          | 0.100          | 4.06            | 9.76         | 13.82        |
| <b>07610.01 METAL ROOFING</b>                         |             |                |                 |              |              |
| METAL ROOFING   |             |                |                 |              |              |
| Sheet metal roofing, copper, 16 oz, batten seam ..... | SQ          | 5.333          | 1,800.00        | 520.00       | 2,320.00     |
| Standing seam .....                                   | SQ          | 5.000          | 1,760.00        | 490.00       | 2,250.00     |
| Aluminum roofing, natural finish                      |             |                |                 |              |              |
| Corrugated, on steel frame                            |             |                |                 |              |              |
| .0175" thick .....                                    | SQ          | 2.286          | 140.00          | 220.00       | 360.00       |
| .0215" thick .....                                    | SQ          | 2.286          | 180.00          | 220.00       | 400.00       |
| .024" thick .....                                     | SQ          | 2.286          | 210.00          | 220.00       | 430.00       |
| .032" thick .....                                     | SQ          | 2.286          | 260.00          | 220.00       | 480.00       |

## DIVISION 07 THERMAL AND MOISTURE

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>07610.01 METAL ROOFING (Cont.)</b>               |             |                |                 |              |              |
| Aluminum roofing, natural finish                    |             |                |                 |              |              |
| V-beam, on steel frame                              |             |                |                 |              |              |
| .032" thick .....                                   | SQ          | 2.286          | 270.00          | 220.00       | 490.00       |
| .040" thick .....                                   | SQ          | 2.286          | 290.00          | 220.00       | 510.00       |
| .050" thick .....                                   | SQ          | 2.286          | 370.00          | 220.00       | 590.00       |
| Ridge cap   |             |                |                 |              |              |
| .019" thick .....                                   | LF          | 0.027          | 4.24            | 2.60         | 6.84         |
| Corrugated galvanized steel roofing, on steel frame |             |                |                 |              |              |
| 28 ga. ....   | SQ          | 2.286          | 230.00          | 220.00       | 450.00       |
| 26 ga. ....   | SQ          | 2.286          | 270.00          | 220.00       | 490.00       |
| 24 ga. ....   | SQ          | 2.286          | 300.00          | 220.00       | 520.00       |
| 22 ga. ....   | SQ          | 2.286          | 330.00          | 220.00       | 550.00       |
| 26 ga., factory insulated with 1" polystyrene ..... | SQ          | 3.200          | 510.00          | 310.00       | 820.00       |
| Ridge roll  |             |                |                 |              |              |
| 10" wide .....                                      | LF          | 0.027          | 2.31            | 2.60         | 4.91         |
| 20" wide .....                                      | LF          | 0.032          | 4.70            | 3.12         | 7.82         |

## **07620.01 FLASHING AND TRIM**

### FLASHING AND TRIM

#### Counter flashing

|                        |    |       |      |      |       |
|------------------------|----|-------|------|------|-------|
| Aluminum, .032"        | SF | 0.080 | 2.51 | 7.81 | 10.32 |
| Stainless steel, .015" | SF | 0.080 | 8.03 | 7.81 | 15.84 |

#### Copper

|             |    |       |       |      |       |
|-------------|----|-------|-------|------|-------|
| 16 oz. .... | SF | 0.080 | 7.48  | 7.81 | 15.29 |
| 20 oz. .... | SF | 0.080 | 8.89  | 7.81 | 16.70 |
| 24 oz. .... | SF | 0.080 | 10.75 | 7.81 | 18.56 |
| 32 oz. .... | SF | 0.080 | 13.25 | 7.81 | 21.06 |

#### Valley flashing

|                       |    |       |      |      |       |
|-----------------------|----|-------|------|------|-------|
| Aluminum, .032"       | SF | 0.050 | 1.74 | 4.88 | 6.62  |
| Stainless steel, .015 | SF | 0.050 | 5.56 | 4.88 | 10.44 |

#### Copper

|             |    |       |       |      |       |
|-------------|----|-------|-------|------|-------|
| 16 oz. .... | SF | 0.050 | 7.48  | 4.88 | 12.36 |
| 20 oz. .... | SF | 0.067 | 8.89  | 6.51 | 15.40 |
| 24 oz. .... | SF | 0.050 | 10.75 | 4.88 | 15.63 |
| 32 oz. .... | SF | 0.050 | 13.25 | 4.88 | 18.13 |

#### Base flashing

|                        |    |       |      |      |       |
|------------------------|----|-------|------|------|-------|
| Aluminum, .040"        | SF | 0.067 | 2.60 | 6.51 | 9.11  |
| Stainless steel, .018" | SF | 0.067 | 6.65 | 6.51 | 13.16 |

#### Copper

|             |    |       |       |      |       |
|-------------|----|-------|-------|------|-------|
| 16 oz. .... | SF | 0.067 | 15.00 | 6.51 | 21.51 |
| 20 oz. .... | SF | 0.050 | 17.75 | 4.88 | 22.63 |
| 24 oz. .... | SF | 0.067 | 21.50 | 6.51 | 28.01 |
| 32 oz. .... | SF | 0.067 | 26.50 | 6.51 | 33.01 |

#### Flashing and trim, aluminum

|                   |    |       |      |      |       |
|-------------------|----|-------|------|------|-------|
| .019" thick ..... | SF | 0.057 | 2.25 | 5.58 | 7.83  |
| .032" thick ..... | SF | 0.057 | 2.75 | 5.58 | 8.33  |
| .040" thick ..... | SF | 0.062 | 4.71 | 6.00 | 10.71 |

#### Neoprene sheet flashing, .060" thick .....

|  |    |       |      |      |      |
|--|----|-------|------|------|------|
| Neoprene sheet flashing, .060" thick ..... | SF | 0.050 | 3.75 | 4.88 | 8.63 |
|--|----|-------|------|------|------|

#### Copper, paper backed

|            |    |       |      |      |       |
|------------|----|-------|------|------|-------|
| 2 oz. .... | SF | 0.080 | 4.81 | 7.81 | 12.62 |
| 5 oz. .... | SF | 0.080 | 6.21 | 7.81 | 14.02 |

## **07712.31 GUTTERS AND DOWNSPOUTS**

### GUTTERS AND DOWNSPOUTS

#### Copper gutter and downspout

|                            |    |       |       |      |       |
|----------------------------|----|-------|-------|------|-------|
| Downdspouts, 16 oz. copper |    |       |       |      |       |
| Round                      |    |       |       |      |       |
| 3" dia. ....               | LF | 0.053 | 15.50 | 5.20 | 20.70 |
| 4" dia. ....               | LF | 0.053 | 19.50 | 5.20 | 24.70 |

#### Rectangular, corrugated

|              |    |       |       |      |       |
|--------------|----|-------|-------|------|-------|
| 2" x 3" .... | LF | 0.050 | 15.00 | 4.88 | 19.88 |
| 3" x 4" .... | LF | 0.050 | 18.50 | 4.88 | 23.38 |

#### Rectangular, flat surface

|              |    |       |       |      |       |
|--------------|----|-------|-------|------|-------|
| 2" x 3" .... | LF | 0.053 | 17.25 | 5.20 | 22.45 |
| 3" x 4" .... | LF | 0.053 | 24.50 | 5.20 | 29.70 |

## DIVISION 07 THERMAL AND MOISTURE

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>07712.31 GUTTERS AND DOWNSPOUTS (Cont.)</u></b> |             |                |                 |              |              |
| Copper gutter and downspout                           |             |                |                 |              |              |
| Lead-coated copper downspouts                         |             |                |                 |              |              |
| Round   |             |                |                 |              |              |
| 3" dia. ....  | LF .....    | 0.050 .....    | 24.50 .....     | 4.88 .....   | 29.38 .....  |
| 4" dia. ....  | LF .....    | 0.057 .....    | 29.50 .....     | 5.58 .....   | 35.08 .....  |
| Rectangular, corrugated                               |             |                |                 |              |              |
| 2" x 3" ....  | LF .....    | 0.053 .....    | 20.50 .....     | 5.20 .....   | 25.70 .....  |
| 3" x 4" ....  | LF .....    | 0.053 .....    | 24.50 .....     | 5.20 .....   | 29.70 .....  |
| Rectangular, plain                                    |             |                |                 |              |              |
| 2" x 3" ....  | LF .....    | 0.053 .....    | 14.25 .....     | 5.20 .....   | 19.45 .....  |
| 3" x 4" ....  | LF .....    | 0.053 .....    | 16.50 .....     | 5.20 .....   | 21.70 .....  |
| Gutters, 16 oz. copper                                |             |                |                 |              |              |
| Half round  |             |                |                 |              |              |
| 4" wide ....  | LF .....    | 0.080 .....    | 14.00 .....     | 7.81 .....   | 21.81 .....  |
| 5" wide ....  | LF .....    | 0.089 .....    | 17.00 .....     | 8.68 .....   | 25.68 .....  |
| Type K  |             |                |                 |              |              |
| 4" wide ....  | LF .....    | 0.080 .....    | 15.50 .....     | 7.81 .....   | 23.31 .....  |
| 5" wide ....  | LF .....    | 0.089 .....    | 16.25 .....     | 8.68 .....   | 24.93 .....  |
| Lead-coated copper gutters                            |             |                |                 |              |              |
| Half round  |             |                |                 |              |              |
| 4" wide ....  | LF .....    | 0.080 .....    | 17.00 .....     | 7.81 .....   | 24.81 .....  |
| 6" wide ....  | LF .....    | 0.089 .....    | 23.25 .....     | 8.68 .....   | 31.93 .....  |
| Type K  |             |                |                 |              |              |
| 4" wide ....  | LF .....    | 0.080 .....    | 18.50 .....     | 7.81 .....   | 26.31 .....  |
| 5" wide ....  | LF .....    | 0.089 .....    | 24.00 .....     | 8.68 .....   | 32.68 .....  |
| Aluminum gutter and downspout                         |             |                |                 |              |              |
| Downspouts  |             |                |                 |              |              |
| 2" x 3" ....  | LF .....    | 0.053 .....    | 2.19 .....      | 5.20 .....   | 7.39 .....   |
| 3" x 4" ....  | LF .....    | 0.057 .....    | 3.02 .....      | 5.58 .....   | 8.60 .....   |
| 4" x 5" ....  | LF .....    | 0.062 .....    | 3.48 .....      | 6.00 .....   | 9.48 .....   |
| Round   |             |                |                 |              |              |
| 3" dia. ....  | LF .....    | 0.053 .....    | 3.51 .....      | 5.20 .....   | 8.71 .....   |
| 4" dia. ....  | LF .....    | 0.057 .....    | 4.50 .....      | 5.58 .....   | 10.08 .....  |
| Gutters, stock units                                  |             |                |                 |              |              |
| 4" wide ....  | LF .....    | 0.084 .....    | 2.60 .....      | 8.22 .....   | 10.82 .....  |
| 5" wide ....  | LF .....    | 0.089 .....    | 3.09 .....      | 8.68 .....   | 11.77 .....  |
| Galvanized steel gutter and downspout                 |             |                |                 |              |              |
| Downspouts, round corrugated                          |             |                |                 |              |              |
| 3" dia. ....  | LF .....    | 0.053 .....    | 2.87 .....      | 5.20 .....   | 8.07 .....   |
| 4" dia. ....  | LF .....    | 0.053 .....    | 3.85 .....      | 5.20 .....   | 9.05 .....   |
| 5" dia. ....  | LF .....    | 0.057 .....    | 5.74 .....      | 5.58 .....   | 11.32 .....  |
| 6" dia. ....  | LF .....    | 0.057 .....    | 7.62 .....      | 5.58 .....   | 13.20 .....  |
| Rectangular   |             |                |                 |              |              |
| 2" x 3" ....  | LF .....    | 0.053 .....    | 2.60 .....      | 5.20 .....   | 7.80 .....   |
| 3" x 4" ....  | LF .....    | 0.050 .....    | 3.72 .....      | 4.88 .....   | 8.60 .....   |
| 4" x 4" ....  | LF .....    | 0.050 .....    | 4.65 .....      | 4.88 .....   | 9.53 .....   |
| Gutters, stock units                                  |             |                |                 |              |              |
| 5" wide   |             |                |                 |              |              |
| Plain ....  | LF .....    | 0.089 .....    | 2.51 .....      | 8.68 .....   | 11.19 .....  |
| Painted ....  | LF .....    | 0.089 .....    | 2.72 .....      | 8.68 .....   | 11.40 .....  |
| 6" wide   |             |                |                 |              |              |
| Plain ....  | LF .....    | 0.094 .....    | 3.50 .....      | 9.19 .....   | 12.69 .....  |
| Painted ....  | LF .....    | 0.094 .....    | 3.93 .....      | 9.19 .....   | 13.12 .....  |

## **07920.01 CAULKING**

### CAULKING

#### Caulk exterior, two component

|                |          |             |            |            |            |
|----------------|----------|-------------|------------|------------|------------|
| 1/4 x 1/2 .... | LF ..... | 0.040 ..... | 0.43 ..... | 4.09 ..... | 4.52 ..... |
| 3/8 x 1/2 .... | LF ..... | 0.044 ..... | 0.66 ..... | 4.54 ..... | 5.20 ..... |
| 1/2 x 1/2 .... | LF ..... | 0.050 ..... | 0.90 ..... | 5.11 ..... | 6.01 ..... |

#### Caulk interior, single component

|                |          |             |            |            |            |
|----------------|----------|-------------|------------|------------|------------|
| 1/4 x 1/2 .... | LF ..... | 0.038 ..... | 0.29 ..... | 3.89 ..... | 4.18 ..... |
| 3/8 x 1/2 .... | LF ..... | 0.042 ..... | 0.41 ..... | 4.30 ..... | 4.71 ..... |
| 1/2 x 1/2 .... | LF ..... | 0.047 ..... | 0.54 ..... | 4.81 ..... | 5.35 ..... |

## DIVISION 08 DOORS AND WINDOWS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>08111.31 METAL DOORS</b>                         |             |                |                 |              |              |
| METAL DOORS   |             |                |                 |              |              |
| Flush hollow metal, std. duty, 20 ga., 1-3/8" thick |             |                |                 |              |              |
| 2-6 x 6-8 .....                                     | EA          | 0.889          | 570.00          | 91.00        | 661.00       |
| 2-8 x 6-8 .....                                     | EA          | 0.889          | 600.00          | 91.00        | 691.00       |
| 3-0 x 6-8 .....                                     | EA          | 0.889          | 640.00          | 91.00        | 731.00       |
| 1-3/4" thick  |             |                |                 |              |              |
| 2-6 x 6-8 .....                                     | EA          | 0.889          | 580.00          | 91.00        | 671.00       |
| 2-8 x 6-8 .....                                     | EA          | 0.889          | 710.00          | 91.00        | 801.00       |
| 3-0 x 6-8 .....                                     | EA          | 0.889          | 660.00          | 91.00        | 751.00       |
| 2-6 x 7-0 .....                                     | EA          | 0.889          | 640.00          | 91.00        | 731.00       |
| 2-8 x 7-0 .....                                     | EA          | 0.889          | 660.00          | 91.00        | 751.00       |
| 3-0 x 7-0 .....                                     | EA          | 0.889          | 700.00          | 91.00        | 791.00       |
| Heavy duty, 20 ga., unrated, 1-3/4"                 |             |                |                 |              |              |
| 2-8 x 6-8 .....                                     | EA          | 0.889          | 640.00          | 91.00        | 731.00       |
| 3-0 x 6-8 .....                                     | EA          | 0.889          | 680.00          | 91.00        | 771.00       |
| 2-8 x 7-0 .....                                     | EA          | 0.889          | 720.00          | 91.00        | 811.00       |
| 3-0 x 7-0 .....                                     | EA          | 0.889          | 700.00          | 91.00        | 791.00       |
| 3-4 x 7-0 .....                                     | EA          | 0.889          | 720.00          | 91.00        | 811.00       |
| 18 ga., 1-3/4", unrated door                        |             |                |                 |              |              |
| 2-0 x 7-0 .....                                     | EA          | 0.889          | 670.00          | 91.00        | 761.00       |
| 2-4 x 7-0 .....                                     | EA          | 0.889          | 670.00          | 91.00        | 761.00       |
| 2-6 x 7-0 .....                                     | EA          | 0.889          | 670.00          | 91.00        | 761.00       |
| 2-8 x 7-0 .....                                     | EA          | 0.889          | 740.00          | 91.00        | 831.00       |
| 3-0 x 7-0 .....                                     | EA          | 0.889          | 680.00          | 91.00        | 771.00       |
| 3-4 x 7-0 .....                                     | EA          | 0.889          | 840.00          | 91.00        | 931.00       |
| 2", unrated door                                    |             |                |                 |              |              |
| 2-0 x 7-0 .....                                     | EA          | 1.000          | 740.00          | 100.00       | 840.00       |
| 2-4 x 7-0 .....                                     | EA          | 1.000          | 740.00          | 100.00       | 840.00       |
| 2-6 x 7-0 .....                                     | EA          | 1.000          | 740.00          | 100.00       | 840.00       |
| 2-8 x 7-0 .....                                     | EA          | 1.000          | 810.00          | 100.00       | 910.00       |
| 3-0 x 7-0 .....                                     | EA          | 1.000          | 840.00          | 100.00       | 940.00       |
| 3-4 x 7-0 .....                                     | EA          | 1.000          | 860.00          | 100.00       | 960.00       |

## **08111.34 METAL DOOR FRAMES**

### METAL DOOR FRAMES

Hollow metal, stock, 18 ga., 4-3/4" x 1-3/4"

|                 |    |       |        |        |        |
|-----------------|----|-------|--------|--------|--------|
| 2-0 x 7-0 ..... | EA | 1.000 | 160.00 | 100.00 | 260.00 |
| 2-4 x 7-0 ..... | EA | 1.000 | 180.00 | 100.00 | 280.00 |
| 2-6 x 7-0 ..... | EA | 1.000 | 180.00 | 100.00 | 280.00 |
| 2-8 x 7-0 ..... | EA | 1.000 | 180.00 | 100.00 | 280.00 |
| 3-0 x 7-0 ..... | EA | 1.000 | 180.00 | 100.00 | 280.00 |
| 4-0 x 7-0 ..... | EA | 1.333 | 200.00 | 140.00 | 340.00 |
| 5-0 x 7-0 ..... | EA | 1.333 | 210.00 | 140.00 | 350.00 |
| 6-0 x 7-0 ..... | EA | 1.333 | 250.00 | 140.00 | 390.00 |

16 ga., 6-3/4" x 1-3/4"

|                 |    |       |        |        |        |
|-----------------|----|-------|--------|--------|--------|
| 2-0 x 7-0 ..... | EA | 1.000 | 180.00 | 100.00 | 280.00 |
| 2-4 x 7-0 ..... | EA | 1.000 | 170.00 | 100.00 | 270.00 |
| 2-6 x 7-0 ..... | EA | 1.000 | 170.00 | 100.00 | 270.00 |
| 2-8 x 7-0 ..... | EA | 1.000 | 180.00 | 100.00 | 280.00 |
| 3-0 x 7-0 ..... | EA | 1.000 | 190.00 | 100.00 | 290.00 |
| 4-0 x 7-0 ..... | EA | 1.333 | 220.00 | 140.00 | 360.00 |
| 6-0 x 7-0 ..... | EA | 1.333 | 260.00 | 140.00 | 400.00 |

## **08140.01 WOOD DOORS**

### WOOD DOORS

Solid core, 1-3/8" thick

Birch faced

|                 |    |       |        |        |        |
|-----------------|----|-------|--------|--------|--------|
| 2-4 x 7-0 ..... | EA | 1.000 | 190.00 | 100.00 | 290.00 |
| 2-8 x 7-0 ..... | EA | 1.000 | 200.00 | 100.00 | 300.00 |
| 3-0 x 7-0 ..... | EA | 1.000 | 200.00 | 100.00 | 300.00 |
| 3-4 x 7-0 ..... | EA | 1.000 | 400.00 | 100.00 | 500.00 |
| 2-4 x 6-8 ..... | EA | 1.000 | 190.00 | 100.00 | 290.00 |
| 2-6 x 6-8 ..... | EA | 1.000 | 190.00 | 100.00 | 290.00 |
| 2-8 x 6-8 ..... | EA | 1.000 | 200.00 | 100.00 | 300.00 |
| 3-0 x 6-8 ..... | EA | 1.000 | 200.00 | 100.00 | 300.00 |

## DIVISION 08 DOORS AND WINDOWS

|                                    | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>08140.01 WOOD DOORS (Cont.)</b> |             |                |                 |              |              |
| Solid core, 1-3/8" thick           |             |                |                 |              |              |
| Luan faced                         |             |                |                 |              |              |
| 2-4 x 6-8 .....                    | EA          | 1.000          | 160.00          | 100.00       | 260.00       |
| 2-8 x 6-8 .....                    | EA          | 1.000          | 170.00          | 100.00       | 270.00       |
| 3-0 x 6-8 .....                    | EA          | 1.000          | 180.00          | 100.00       | 280.00       |
| 3-4 x 6-8 .....                    | EA          | 1.000          | 290.00          | 100.00       | 390.00       |
| Tempered hardboard faced           |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 200.00          | 100.00       | 300.00       |
| 2-8 x 7-0 .....                    | EA          | 1.000          | 210.00          | 100.00       | 310.00       |
| 3-0 x 7-0 .....                    | EA          | 1.000          | 240.00          | 100.00       | 340.00       |
| 3-4 x 7-0 .....                    | EA          | 1.000          | 250.00          | 100.00       | 350.00       |
| Hollow core, 1-3/8" thick          |             |                |                 |              |              |
| Birch faced                        |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 160.00          | 100.00       | 260.00       |
| 2-8 x 7-0 .....                    | EA          | 1.000          | 160.00          | 100.00       | 260.00       |
| 3-0 x 7-0 .....                    | EA          | 1.000          | 170.00          | 100.00       | 270.00       |
| 3-4 x 7-0 .....                    | EA          | 1.000          | 180.00          | 100.00       | 280.00       |
| Luan faced                         |             |                |                 |              |              |
| 2-4 x 6-8 .....                    | EA          | 1.000          | 81.00           | 100.00       | 181.00       |
| 2-6 x 6-8 .....                    | EA          | 1.000          | 88.00           | 100.00       | 188.00       |
| 2-8 x 6-8 .....                    | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| 3-0 x 6-8 .....                    | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| 3-4 x 6-8 .....                    | EA          | 1.000          | 130.00          | 100.00       | 230.00       |
| Tempered hardboard faced           |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 83.00           | 100.00       | 183.00       |
| 2-6 x 7-0 .....                    | EA          | 1.000          | 89.00           | 100.00       | 189.00       |
| 2-8 x 7-0 .....                    | EA          | 1.000          | 98.00           | 100.00       | 198.00       |
| 3-0 x 7-0 .....                    | EA          | 1.000          | 100.00          | 100.00       | 200.00       |
| 3-4 x 7-0 .....                    | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| Solid core, 1-3/4" thick           |             |                |                 |              |              |
| Birch faced                        |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 270.00          | 100.00       | 370.00       |
| 2-6 x 7-0 .....                    | EA          | 1.000          | 270.00          | 100.00       | 370.00       |
| 2-8 x 7-0 .....                    | EA          | 1.000          | 290.00          | 100.00       | 390.00       |
| 3-0 x 7-0 .....                    | EA          | 1.000          | 270.00          | 100.00       | 370.00       |
| 3-4 x 7-0 .....                    | EA          | 1.000          | 270.00          | 100.00       | 370.00       |
| Luan faced                         |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 190.00          | 100.00       | 290.00       |
| 2-6 x 7-0 .....                    | EA          | 1.000          | 210.00          | 100.00       | 310.00       |
| 2-8 x 7-0 .....                    | EA          | 1.000          | 230.00          | 100.00       | 330.00       |
| 3-0 x 7-0 .....                    | EA          | 1.000          | 240.00          | 100.00       | 340.00       |
| 3-4 x 7-0 .....                    | EA          | 1.000          | 250.00          | 100.00       | 350.00       |
| Tempered hardboard faced           |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 200.00          | 100.00       | 300.00       |
| 2-6 x 7-0 .....                    | EA          | 1.000          | 220.00          | 100.00       | 320.00       |
| 2-8 x 7-0 .....                    | EA          | 1.000          | 240.00          | 100.00       | 340.00       |
| 3-0 x 7-0 .....                    | EA          | 1.000          | 250.00          | 100.00       | 350.00       |
| 3-4 x 7-0 .....                    | EA          | 1.000          | 270.00          | 100.00       | 370.00       |
| Hollow core, 1-3/4" thick          |             |                |                 |              |              |
| Birch faced                        |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 190.00          | 100.00       | 290.00       |
| 2-6 x 7-0 .....                    | EA          | 1.000          | 190.00          | 100.00       | 290.00       |
| 2-8 x 7-0 .....                    | EA          | 1.000          | 200.00          | 100.00       | 300.00       |
| 3-0 x 7-0 .....                    | EA          | 1.000          | 200.00          | 100.00       | 300.00       |
| 3-4 x 7-0 .....                    | EA          | 1.000          | 210.00          | 100.00       | 310.00       |
| Luan faced                         |             |                |                 |              |              |
| 2-4 x 6-8 .....                    | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| 2-6 x 6-8 .....                    | EA          | 1.000          | 120.00          | 100.00       | 220.00       |
| 2-8 x 6-8 .....                    | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| 3-0 x 6-8 .....                    | EA          | 1.000          | 120.00          | 100.00       | 220.00       |
| 3-4 x 6-8 .....                    | EA          | 1.000          | 120.00          | 100.00       | 220.00       |
| Tempered hardboard                 |             |                |                 |              |              |
| 2-4 x 7-0 .....                    | EA          | 1.000          | 100.00          | 100.00       | 200.00       |
| 2-6 x 7-0 .....                    | EA          | 1.000          | 110.00          | 100.00       | 210.00       |

## DIVISION 08 DOORS AND WINDOWS

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>08140.01 WOOD DOORS (Cont.)</b>               |             |                |                 |              |              |
| Tempered hardboard                               |             |                |                 |              |              |
| 2-8 x 7-0 .....                                  | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| 3-0 x 7-0 .....                                  | EA          | 1.000          | 120.00          | 100.00       | 220.00       |
| 3-4 x 7-0 .....                                  | EA          | 1.000          | 120.00          | 100.00       | 220.00       |
| Add-on, louver                                   |             |                |                 |              |              |
| Glass .....                                      | EA          | 0.800          | 34.50           | 82.00        | 116.50       |
| Exterior doors, 3-0 x 7-0 x 2-1/2", solid core   |             |                |                 |              |              |
| Carved   |             |                |                 |              |              |
| One face .....                                   | EA          | 2.000          | 1,150.00        | 200.00       | 1,350.00     |
| Two faces .....                                  | EA          | 2.000          | 1,590.00        | 200.00       | 1,790.00     |
| Closet doors, 1-3/4" thick                       |             |                |                 |              |              |
| Bi-fold or bi-passing, includes frame and trim   |             |                |                 |              |              |
| Paneled  |             |                |                 |              |              |
| 4-0 x 6-8 .....                                  | EA          | 1.333          | 460.00          | 140.00       | 600.00       |
| 6-0 x 6-8 .....                                  | EA          | 1.333          | 520.00          | 140.00       | 660.00       |
| Louvered   |             |                |                 |              |              |
| 4-0 x 6-8 .....                                  | EA          | 1.333          | 280.00          | 140.00       | 420.00       |
| 6-0 x 6-8 .....                                  | EA          | 1.333          | 330.00          | 140.00       | 470.00       |
| Flush  |             |                |                 |              |              |
| 4-0 x 6-8 .....                                  | EA          | 1.333          | 200.00          | 140.00       | 340.00       |
| 6-0 x 6-8 .....                                  | EA          | 1.333          | 260.00          | 140.00       | 400.00       |
| Primed   |             |                |                 |              |              |
| 4-0 x 6-8 .....                                  | EA          | 1.333          | 220.00          | 140.00       | 360.00       |
| 6-0 x 6-8 .....                                  | EA          | 1.333          | 250.00          | 140.00       | 390.00       |
| <b>08140.09 WOOD FRAMES</b>                      |             |                |                 |              |              |
| WOOD FRAMES                                      |             |                |                 |              |              |
| Frame, interior, pine                            |             |                |                 |              |              |
| 2-6 x 6-8 .....                                  | EA          | 1.143          | 83.00           | 120.00       | 203.00       |
| 2-8 x 6-8 .....                                  | EA          | 1.143          | 89.00           | 120.00       | 209.00       |
| 3-0 x 6-8 .....                                  | EA          | 1.143          | 92.00           | 120.00       | 212.00       |
| 5-0 x 6-8 .....                                  | EA          | 1.143          | 96.00           | 120.00       | 216.00       |
| 6-0 x 6-8 .....                                  | EA          | 1.143          | 100.00          | 120.00       | 220.00       |
| 2-6 x 7-0 .....                                  | EA          | 1.143          | 95.00           | 120.00       | 215.00       |
| 2-8 x 7-0 .....                                  | EA          | 1.143          | 110.00          | 120.00       | 230.00       |
| 3-0 x 7-0 .....                                  | EA          | 1.143          | 110.00          | 120.00       | 230.00       |
| 5-0 x 7-0 .....                                  | EA          | 1.600          | 120.00          | 160.00       | 280.00       |
| 6-0 x 7-0 .....                                  | EA          | 1.600          | 130.00          | 160.00       | 290.00       |
| Exterior, custom, with threshold, including trim |             |                |                 |              |              |
| Walnut   |             |                |                 |              |              |
| 3-0 x 7-0 .....                                  | EA          | 2.000          | 330.00          | 200.00       | 530.00       |
| 6-0 x 7-0 .....                                  | EA          | 2.000          | 380.00          | 200.00       | 580.00       |
| Oak  |             |                |                 |              |              |
| 3-0 x 7-0 .....                                  | EA          | 2.000          | 300.00          | 200.00       | 500.00       |
| 6-0 x 7-0 .....                                  | EA          | 2.000          | 340.00          | 200.00       | 540.00       |
| Pine   |             |                |                 |              |              |
| 2-4 x 7-0 .....                                  | EA          | 1.600          | 120.00          | 160.00       | 280.00       |
| 2-6 x 7-0 .....                                  | EA          | 1.600          | 130.00          | 160.00       | 290.00       |
| 2-8 x 7-0 .....                                  | EA          | 1.600          | 160.00          | 160.00       | 320.00       |
| 3-0 x 7-0 .....                                  | EA          | 1.600          | 170.00          | 160.00       | 330.00       |
| 3-4 x 7-0 .....                                  | EA          | 1.600          | 180.00          | 160.00       | 340.00       |
| 6-0 x 7-0 .....                                  | EA          | 2.667          | 190.00          | 270.00       | 460.00       |
| <b>08340.01 SPECIAL DOORS</b>                    |             |                |                 |              |              |
| SPECIAL DOORS                                    |             |                |                 |              |              |
| Sliding glass doors                              |             |                |                 |              |              |
| Tempered plate glass, 1/4" thick                 |             |                |                 |              |              |
| 6' wide  |             |                |                 |              |              |
| Economy grade .....                              | EA          | 2.667          | 1,130.00        | 270.00       | 1,400.00     |
| Premium grade .....                              | EA          | 2.667          | 1,820.00        | 270.00       | 2,090.00     |
| 12' wide   |             |                |                 |              |              |
| Economy grade .....                              | EA          | 4.000          | 1,590.00        | 410.00       | 2,000.00     |
| Premium grade .....                              | EA          | 4.000          | 2,390.00        | 410.00       | 2,800.00     |

## DIVISION 08 DOORS AND WINDOWS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>08340.01 SPECIAL DOORS (Cont.)</b>           |             |                |                 |              |              |
| Sliding glass doors                             |             |                |                 |              |              |
| Insulating glass, 5/8" thick                    |             |                |                 |              |              |
| 6' wide   |             |                |                 |              |              |
| Economy grade .....                             | EA          | 2.667          | 1,400.00        | 270.00       | 1,670.00     |
| Premium grade .....                             | EA          | 2.667          | 1,800.00        | 270.00       | 2,070.00     |
| 12' wide  |             |                |                 |              |              |
| Economy grade .....                             | EA          | 4.000          | 1,740.00        | 410.00       | 2,150.00     |
| Premium grade .....                             | EA          | 4.000          | 2,790.00        | 410.00       | 3,200.00     |
| 1" thick  |             |                |                 |              |              |
| 6' wide   |             |                |                 |              |              |
| Economy grade .....                             | EA          | 2.667          | 1,760.00        | 270.00       | 2,030.00     |
| Premium grade .....                             | EA          | 2.667          | 2,030.00        | 270.00       | 2,300.00     |
| 12' wide  |             |                |                 |              |              |
| Economy grade .....                             | EA          | 4.000          | 2,730.00        | 410.00       | 3,140.00     |
| Premium grade .....                             | EA          | 4.000          | 3,990.00        | 410.00       | 4,400.00     |
| Added costs                                     |             |                |                 |              |              |
| Custom quality, add to material, 30%            |             |                |                 |              |              |
| Tempered glass, 6' wide, add .....              | SF          |                |                 |              | 4.90         |
| Residential storm door                          |             |                |                 |              |              |
| Minimum .....                                   | EA          | 1.333          | 180.00          | 140.00       | 320.00       |
| Average .....                                   | EA          | 1.333          | 230.00          | 140.00       | 370.00       |
| Maximum .....                                   | EA          | 2.000          | 510.00          | 200.00       | 710.00       |
| <b>08440.01 GLAZED CURTAIN WALLS</b>            |             |                |                 |              |              |
| GLAZED CURTAIN WALLS                            |             |                |                 |              |              |
| Curtain wall, aluminum system, framing sections |             |                |                 |              |              |
| 2" x 3"   |             |                |                 |              |              |
| Jamb .....                                      | LF          | 0.067          | 19.75           | 6.90         | 26.65        |
| Horizontal .....                                | LF          | 0.067          | 20.00           | 6.90         | 26.90        |
| Mullion .....                                   | LF          | 0.067          | 26.75           | 6.90         | 33.65        |
| 2" x 4"   |             |                |                 |              |              |
| Jamb .....                                      | LF          | 0.100          | 26.75           | 10.25        | 37.00        |
| Horizontal .....                                | LF          | 0.100          | 27.50           | 10.25        | 37.75        |
| Mullion .....                                   | LF          | 0.100          | 26.75           | 10.25        | 37.00        |
| 3" x 5-1/2"                                     |             |                |                 |              |              |
| Jamb .....                                      | LF          | 0.100          | 35.50           | 10.25        | 45.75        |
| Horizontal .....                                | LF          | 0.100          | 39.50           | 10.25        | 49.75        |
| Mullion .....                                   | LF          | 0.100          | 35.75           | 10.25        | 46.00        |
| 4" corner mullion .....                         | LF          | 0.133          | 47.25           | 13.75        | 61.00        |
| Coping sections                                 |             |                |                 |              |              |
| 1/8" x 8"                                       | LF          | 0.133          | 45.00           | 13.75        | 58.75        |
| 1/8" x 9"                                       | LF          | 0.133          | 45.25           | 13.75        | 59.00        |
| 1/8" x 12-1/2"                                  | LF          | 0.160          | 46.25           | 16.50        | 62.75        |
| Sill section                                    |             |                |                 |              |              |
| 1/8" x 6"                                       | LF          | 0.080          | 44.25           | 8.28         | 52.53        |
| 1/8" x 7"                                       | LF          | 0.080          | 44.75           | 8.28         | 53.03        |
| 1/8" x 8-1/2"                                   | LF          | 0.080          | 45.75           | 8.28         | 54.03        |
| Column covers, aluminum                         |             |                |                 |              |              |
| 1/8" x 26"                                      | LF          | 0.200          | 66.00           | 20.75        | 86.75        |
| 1/8" x 34"                                      | LF          | 0.211          | 74.00           | 21.75        | 95.75        |
| 1/8" x 38"                                      | LF          | 0.211          | 75.00           | 21.75        | 96.75        |
| Doors   |             |                |                 |              |              |
| Aluminum framed, standard hardware              |             |                |                 |              |              |
| Narrow stile                                    |             |                |                 |              |              |
| 2-6 x 7-0 .....                                 | EA          | 4.000          | 820.00          | 410.00       | 1,230.00     |
| 3-0 x 7-0 .....                                 | EA          | 4.000          | 820.00          | 410.00       | 1,230.00     |
| 3-6 x 7-0 .....                                 | EA          | 4.000          | 850.00          | 410.00       | 1,260.00     |

## **08511.31 ALUMINUM WINDOWS**

|                      |    |       |        |        |        |
|----------------------|----|-------|--------|--------|--------|
| ALUMINUM WINDOWS     |    |       |        |        |        |
| Jalousie             |    |       |        |        |        |
| 3-0 x 4-0 .....      | EA | 1.000 | 360.00 | 100.00 | 460.00 |
| 3-0 x 5-0 .....      | EA | 1.000 | 420.00 | 100.00 | 520.00 |
| Fixed window         |    |       |        |        |        |
| 6 sf to 8 sf .....   | SF | 0.114 | 19.75  | 11.75  | 31.50  |
| 12 sf to 16 sf ..... | SF | 0.089 | 17.75  | 9.20   | 26.95  |

## DIVISION 08 DOORS AND WINDOWS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>08511.31 ALUMINUM WINDOWS (Cont.)</b>    |             |                |                 |              |              |
| Projecting window                           |             |                |                 |              |              |
| 6 sf to 8 sf .....                          | SF          | 0.200          | 44.00           | 20.75        | 64.75        |
| 12 sf to 16 sf .....                        | SF          | 0.133          | 39.75           | 13.75        | 53.50        |
| Horizontal sliding                          |             |                |                 |              |              |
| 6 sf to 8 sf .....                          | SF          | 0.100          | 28.50           | 10.25        | 38.75        |
| 12 sf to 16 sf .....                        | SF          | 0.080          | 26.50           | 8.28         | 34.78        |
| Double hung                                 |             |                |                 |              |              |
| 6 sf to 8 sf .....                          | SF          | 0.160          | 39.75           | 16.50        | 56.25        |
| 10 sf to 12 sf .....                        | SF          | 0.133          | 35.25           | 13.75        | 49.00        |
| Storm window, 0.5 cfm, up to                |             |                |                 |              |              |
| 60 u.i. (united inches) .....               | EA          | 0.400          | 92.00           | 41.50        | 133.50       |
| 70 u.i. ....                                | EA          | 0.400          | 95.00           | 41.50        | 136.50       |
| 80 u.i. ....                                | EA          | 0.400          | 110.00          | 41.50        | 151.50       |
| 90 u.i. ....                                | EA          | 0.444          | 110.00          | 46.00        | 156.00       |
| 100 u.i. ....                               | EA          | 0.444          | 110.00          | 46.00        | 156.00       |
| 2.0 cfm, up to                              |             |                |                 |              |              |
| 60 u.i. ....                                | EA          | 0.400          | 120.00          | 41.50        | 161.50       |
| 70 u.i. ....                                | EA          | 0.400          | 120.00          | 41.50        | 161.50       |
| 80 u.i. ....                                | EA          | 0.400          | 120.00          | 41.50        | 161.50       |
| 90 u.i. ....                                | EA          | 0.444          | 130.00          | 46.00        | 176.00       |
| 100 u.i. ....                               | EA          | 0.444          | 130.00          | 46.00        | 176.00       |
| <b>08520.01 WOOD WINDOWS</b>                |             |                |                 |              |              |
| WOOD WINDOWS                                |             |                |                 |              |              |
| Double hung                                 |             |                |                 |              |              |
| 24" x 36"                                   |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.800          | 250.00          | 82.00        | 332.00       |
| Average .....                               | EA          | 1.000          | 370.00          | 100.00       | 470.00       |
| Maximum .....                               | EA          | 1.333          | 490.00          | 140.00       | 630.00       |
| 24" x 48"                                   |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.800          | 300.00          | 82.00        | 382.00       |
| Average .....                               | EA          | 1.000          | 440.00          | 100.00       | 540.00       |
| Maximum .....                               | EA          | 1.333          | 620.00          | 140.00       | 760.00       |
| 30" x 48"                                   |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.889          | 320.00          | 91.00        | 411.00       |
| Average .....                               | EA          | 1.143          | 450.00          | 120.00       | 570.00       |
| Maximum .....                               | EA          | 1.600          | 640.00          | 160.00       | 800.00       |
| 30" x 60"                                   |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.889          | 350.00          | 91.00        | 441.00       |
| Average .....                               | EA          | 1.143          | 560.00          | 120.00       | 680.00       |
| Maximum .....                               | EA          | 1.600          | 680.00          | 160.00       | 840.00       |
| Casement                                    |             |                |                 |              |              |
| 1 leaf, 22" x 38" high                      |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.800          | 380.00          | 82.00        | 462.00       |
| Average .....                               | EA          | 1.000          | 460.00          | 100.00       | 560.00       |
| Maximum .....                               | EA          | 1.333          | 540.00          | 140.00       | 680.00       |
| 2 leaf, 50" x 50" high                      |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.000          | 1,020.00        | 100.00       | 1,120.00     |
| Average .....                               | EA          | 1.333          | 1,330.00        | 140.00       | 1,470.00     |
| Maximum .....                               | EA          | 2.000          | 1,520.00        | 200.00       | 1,720.00     |
| 3 leaf, 71" x 62" high                      |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.000          | 1,460.00        | 100.00       | 1,560.00     |
| Average .....                               | EA          | 1.333          | 1,490.00        | 140.00       | 1,630.00     |
| Maximum .....                               | EA          | 2.000          | 1,780.00        | 200.00       | 1,980.00     |
| 4 leaf, 95" x 75" high                      |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.143          | 1,940.00        | 120.00       | 2,060.00     |
| Average .....                               | EA          | 1.600          | 2,210.00        | 160.00       | 2,370.00     |
| Maximum .....                               | EA          | 2.667          | 2,820.00        | 270.00       | 3,090.00     |
| 5 leaf, 119" x 75" high                     |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.143          | 2,510.00        | 120.00       | 2,630.00     |
| Average .....                               | EA          | 1.600          | 2,700.00        | 160.00       | 2,860.00     |
| Maximum .....                               | EA          | 2.667          | 3,460.00        | 270.00       | 3,730.00     |
| Picture window, fixed glass, 54" x 54" high |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.000          | 520.00          | 100.00       | 620.00       |
| Average .....                               | EA          | 1.143          | 580.00          | 120.00       | 700.00       |

## DIVISION 08 DOORS AND WINDOWS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>08520.01 WOOD WINDOWS (Cont.)</b>        |             |                |                 |              |              |
| Picture window, fixed glass, 54" x 54" high |             |                |                 |              |              |
| Maximum .....                               | EA          | 1.333          | 1,030.00        | 140.00       | 1,170.00     |
| 68" x 55" high                              |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.000          | 930.00          | 100.00       | 1,030.00     |
| Average .....                               | EA          | 1.143          | 1,070.00        | 120.00       | 1,190.00     |
| Maximum .....                               | EA          | 1.333          | 1,400.00        | 140.00       | 1,540.00     |
| Sliding, 40" x 31" high                     |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.800          | 310.00          | 82.00        | 392.00       |
| Average .....                               | EA          | 1.000          | 470.00          | 100.00       | 570.00       |
| Maximum .....                               | EA          | 1.333          | 560.00          | 140.00       | 700.00       |
| 52" x 39" high                              |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.000          | 380.00          | 100.00       | 480.00       |
| Average .....                               | EA          | 1.143          | 570.00          | 120.00       | 690.00       |
| Maximum .....                               | EA          | 1.333          | 610.00          | 140.00       | 750.00       |
| 64" x 72" high                              |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.000          | 600.00          | 100.00       | 700.00       |
| Average .....                               | EA          | 1.333          | 950.00          | 140.00       | 1,090.00     |
| Maximum .....                               | EA          | 1.600          | 1,050.00        | 160.00       | 1,210.00     |
| Awning windows                              |             |                |                 |              |              |
| 34" x 21" high                              |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.800          | 310.00          | 82.00        | 392.00       |
| Average .....                               | EA          | 1.000          | 360.00          | 100.00       | 460.00       |
| Maximum .....                               | EA          | 1.333          | 420.00          | 140.00       | 560.00       |
| 40" x 21" high                              |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.889          | 360.00          | 91.00        | 451.00       |
| Average .....                               | EA          | 1.143          | 410.00          | 120.00       | 530.00       |
| Maximum .....                               | EA          | 1.600          | 450.00          | 160.00       | 610.00       |
| 48" x 27" high                              |             |                |                 |              |              |
| Minimum .....                               | EA          | 0.889          | 390.00          | 91.00        | 481.00       |
| Average .....                               | EA          | 1.143          | 460.00          | 120.00       | 580.00       |
| Maximum .....                               | EA          | 1.600          | 540.00          | 160.00       | 700.00       |
| 60" x 36" high                              |             |                |                 |              |              |
| Minimum .....                               | EA          | 1.000          | 400.00          | 100.00       | 500.00       |
| Average .....                               | EA          | 1.333          | 720.00          | 140.00       | 860.00       |
| Maximum .....                               | EA          | 1.600          | 810.00          | 160.00       | 970.00       |
| Window frame, milled                        |             |                |                 |              |              |
| Minimum .....                               | LF          | 0.160          | 5.73            | 16.25        | 21.98        |
| Average .....                               | LF          | 0.200          | 6.39            | 20.50        | 26.89        |
| Maximum .....                               | LF          | 0.267          | 9.61            | 27.25        | 36.86        |

## **08620.01 PLASTIC SKYLIGHTS**

### PLASTIC SKYLIGHTS

Single thickness, not including mounting curb

|         |    |       |          |        |          |
|---------|----|-------|----------|--------|----------|
| 2' x 4' | EA | 1.000 | 430.00   | 98.00  | 528.00   |
| 4' x 4' | EA | 1.333 | 580.00   | 130.00 | 710.00   |
| 5' x 5' | EA | 2.000 | 770.00   | 200.00 | 970.00   |
| 6' x 8' | EA | 2.667 | 1,630.00 | 260.00 | 1,890.00 |

Double thickness, not including mounting curb

|         |    |       |          |        |          |
|---------|----|-------|----------|--------|----------|
| 2' x 4' | EA | 1.000 | 560.00   | 98.00  | 658.00   |
| 4' x 4' | EA | 1.333 | 710.00   | 130.00 | 840.00   |
| 5' x 5' | EA | 2.000 | 1,040.00 | 200.00 | 1,240.00 |
| 6' x 8' | EA | 2.667 | 1,820.00 | 260.00 | 2,080.00 |

## **08710.01 HINGES**

### HINGES

Hinges, material only

|  |      |       |       |
|--|------|-------|-------|
| 3 x 3 butts, steel, interior, plain bearing .....  | PAIR | ..... | 21.00 |
| 4 x 4 butts, steel, standard .....                 | PAIR | ..... | 31.00 |
| 5 x 4 1/2 butts, bronze/s. steel, heavy duty ..... | PAIR | ..... | 80.00 |

## **08710.02 LOCKSETS**

### LOCKSETS

Latchset, heavy duty

|                   |    |       |        |       |        |
|-------------------|----|-------|--------|-------|--------|
| Cylindrical ..... | EA | 0.500 | 190.00 | 51.00 | 241.00 |
| Mortise .....     | EA | 0.800 | 200.00 | 82.00 | 282.00 |

## DIVISION 08 DOORS AND WINDOWS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>08710.02 LOCKSETS (Cont.)</b>                        |             |                |                 |              |              |
| Lockset, heavy duty                                     |             |                |                 |              |              |
| Cylindrical .....                                       | EA          | 0.500          | 310.00          | 51.00        | 361.00       |
| Mortise .....   | EA          | 0.800          | 350.00          | 82.00        | 432.00       |
| Lockset   |             |                |                 |              |              |
| Privacy (bath or bedroom) .....                         | EA          | 0.667          | 250.00          | 68.00        | 318.00       |
| Entry lock .....  | EA          | 0.667          | 280.00          | 68.00        | 348.00       |
| <b>08710.03 CLOSERS</b>                                 |             |                |                 |              |              |
| CLOSERS   |             |                |                 |              |              |
| Door closers  |             |                |                 |              |              |
| Standard .....  | EA          | 1.000          | 250.00          | 100.00       | 350.00       |
| Heavy duty .....  | EA          | 1.000          | 290.00          | 100.00       | 390.00       |
| <b>08710.04 DOOR TRIM</b>                               |             |                |                 |              |              |
| DOOR TRIM   |             |                |                 |              |              |
| Panic device  |             |                |                 |              |              |
| Mortise .....   | EA          | 2.000          | 830.00          | 200.00       | 1,030.00     |
| Vertical rod .....                                      | EA          | 2.000          | 1,250.00        | 200.00       | 1,450.00     |
| Labeled, rim type .....                                 | EA          | 2.000          | 860.00          | 200.00       | 1,060.00     |
| Mortise .....   | EA          | 2.000          | 1,130.00        | 200.00       | 1,330.00     |
| Vertical rod .....                                      | EA          | 2.000          | 1,200.00        | 200.00       | 1,400.00     |
| <b>08710.06 WEATHERSTRIPPING</b>                        |             |                |                 |              |              |
| WEATHERSTRIPPING  |             |                |                 |              |              |
| Weatherstrip, head and jamb, metal strip, neoprene bulb |             |                |                 |              |              |
| Standard duty .....                                     | LF          | 0.044          | 5.27            | 4.54         | 9.81         |
| Heavy duty .....  | LF          | 0.050          | 5.86            | 5.11         | 10.97        |
| Spring type   |             |                |                 |              |              |
| Metal doors .....                                       | EA          | 2.000          | 58.00           | 200.00       | 258.00       |
| Wood doors .....  | EA          | 2.667          | 58.00           | 270.00       | 328.00       |
| Sponge type with adhesive backing .....                 | EA          | 0.800          | 55.00           | 82.00        | 137.00       |
| Thresholds  |             |                |                 |              |              |
| Bronze .....  | LF          | 0.200          | 57.00           | 20.50        | 77.50        |
| Aluminum  |             |                |                 |              |              |
| Plain .....   | LF          | 0.200          | 26.25           | 20.50        | 46.75        |
| Vinyl insert .....                                      | LF          | 0.200          | 26.75           | 20.50        | 47.25        |
| Aluminum with grit .....                                | LF          | 0.200          | 25.50           | 20.50        | 46.00        |
| Steel   |             |                |                 |              |              |
| Plain .....   | LF          | 0.200          | 25.25           | 20.50        | 45.75        |
| Interlocking .....                                      | LF          | 0.667          | 33.75           | 68.00        | 101.75       |
| <b>08810.01 GLASS GLAZING</b>                           |             |                |                 |              |              |
| GLASS GLAZING   |             |                |                 |              |              |
| Sheet glass, 1/8" thick .....                           | SF          | 0.044          | 9.04            | 4.60         | 13.64        |
| Plate glass, bronze or grey, 1/4" thick .....           | SF          | 0.073          | 13.25           | 7.52         | 20.77        |
| Clear .....   | SF          | 0.073          | 10.25           | 7.52         | 17.77        |
| Polished .....  | SF          | 0.073          | 12.25           | 7.52         | 19.77        |
| Plexiglass  |             |                |                 |              |              |
| 1/8" thick .....  | SF          | 0.073          | 5.82            | 7.52         | 13.34        |
| 1/4" thick .....  | SF          | 0.044          | 10.50           | 4.60         | 15.10        |
| Float glass, clear                                      |             |                |                 |              |              |
| 3/16" thick .....                                       | SF          | 0.067          | 7.04            | 6.90         | 13.94        |
| 1/4" thick .....  | SF          | 0.073          | 7.17            | 7.52         | 14.69        |
| 3/8" thick .....  | SF          | 0.100          | 14.50           | 10.25        | 24.75        |
| Tinted glass, polished plate, twin ground               |             |                |                 |              |              |
| 3/16" thick .....                                       | SF          | 0.067          | 9.69            | 6.90         | 16.59        |
| 1/4" thick .....  | SF          | 0.073          | 9.69            | 7.52         | 17.21        |
| 3/8" thick .....  | SF          | 0.100          | 15.50           | 10.25        | 25.75        |
| Insulating glass, two lites, clear float glass          |             |                |                 |              |              |
| 1/2" thick .....  | SF          | 0.133          | 14.00           | 13.75        | 27.75        |
| 5/8" thick .....  | SF          | 0.160          | 16.25           | 16.50        | 32.75        |
| 3/4" thick .....  | SF          | 0.200          | 17.75           | 20.75        | 38.50        |
| 7/8" thick .....  | SF          | 0.229          | 18.75           | 23.75        | 42.50        |
| 1" thick .....  | SF          | 0.267          | 25.00           | 27.50        | 52.50        |
| Glass seal edge   |             |                |                 |              |              |
| 3/8" thick .....  | SF          | 0.133          | 11.75           | 13.75        | 25.50        |

## DIVISION 08 DOORS AND WINDOWS

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>08810.01 GLASS GLAZING (Cont.)</b>          |             |                |                 |              |              |
| Insulating glass, two lites, clear float glass |             |                |                 |              |              |
| Tinted glass                                   |             |                |                 |              |              |
| 1/2" thick .....                               | SF          | 0.133          | 29.00           | 13.75        | 42.75        |
| 1" thick .....                                 | SF          | 0.267          | 31.00           | 27.50        | 58.50        |
| Tempered, clear                                |             |                |                 |              |              |
| 1" thick .....                                 | SF          | 0.267          | 47.25           | 27.50        | 74.75        |
| Plate mirror glass                             |             |                |                 |              |              |
| 1/4" thick                                     |             |                |                 |              |              |
| 15 sf .....                                    | SF          | 0.080          | 15.25           | 8.28         | 23.53        |
| Over 15 sf .....                               | SF          | 0.073          | 14.00           | 7.52         | 21.52        |

## **08910.01 VENTS AND WALL LOUVERS**

|  |    |       |        |       |        |
|--|----|-------|--------|-------|--------|
| VENTS AND WALL LOUVERS                                   |    |       |        |       |        |
| Block vent, 8"x16"x4" alum., w/screen, mill finish ..... | EA | 0.267 | 210.00 | 27.50 | 237.50 |
| Standard .....   | EA | 0.250 | 120.00 | 25.75 | 145.75 |
| Vents w/screen, 4" deep, 8" wide, 5" high .....          |    |       |        |       |        |
| Modular .....  | EA | 0.250 | 140.00 | 25.75 | 165.75 |
| Aluminum gable louvers .....                             | SF | 0.133 | 25.00  | 13.75 | 38.75  |
| Vent screen aluminum, 4" wide, continuous .....          | LF | 0.027 | 7.27   | 2.76  | 10.03  |
| Aluminum louvers   |    |       |        |       |        |
| Residential use, fixed type, with screen .....           |    |       |        |       |        |
| 8" x 8" .....  | EA | 0.400 | 32.00  | 41.50 | 73.50  |
| 12" x 12" .....  | EA | 0.400 | 35.25  | 41.50 | 76.75  |
| 12" x 18" .....  | EA | 0.400 | 42.25  | 41.50 | 83.75  |
| 14" x 24" .....  | EA | 0.400 | 61.00  | 41.50 | 102.50 |
| 18" x 24" .....  | EA | 0.400 | 68.00  | 41.50 | 109.50 |
| 30" x 24" .....  | EA | 0.444 | 93.00  | 46.00 | 139.00 |

## DIVISION 09 FINISHES

|                                     | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>09211.61 METAL STUDS</b>         |             |                |                 |              |              |
| METAL STUDS                         |             |                |                 |              |              |
| Studs, non load bearing, galvanized |             |                |                 |              |              |
| 1-5/8", 20 ga.                      |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.017          | 0.91            | 1.70         | 2.61         |
| 16" o.c. ....                       | SF          | 0.013          | 0.74            | 1.36         | 2.10         |
| 25 ga.                              |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.017          | 0.83            | 1.70         | 2.53         |
| 16" o.c. ....                       | SF          | 0.013          | 0.68            | 1.36         | 2.04         |
| 2-1/2", 20 ga.                      |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.017          | 1.02            | 1.70         | 2.72         |
| 16" o.c. ....                       | SF          | 0.013          | 0.77            | 1.36         | 2.13         |
| 25 ga.                              |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.017          | 0.93            | 1.70         | 2.63         |
| 16" o.c. ....                       | SF          | 0.013          | 0.70            | 1.36         | 2.06         |
| 24" o.c. ....                       | SF          | 0.011          | 0.46            | 1.13         | 1.59         |
| 3-5/8", 20 ga.                      |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.020          | 1.89            | 2.04         | 3.93         |
| 16" o.c. ....                       | SF          | 0.016          | 1.43            | 1.63         | 3.06         |
| 24" o.c. ....                       | SF          | 0.013          | 0.94            | 1.36         | 2.30         |
| 25 ga.                              |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.020          | 0.98            | 2.04         | 3.02         |
| 16" o.c. ....                       | SF          | 0.016          | 0.74            | 1.63         | 2.37         |
| 24" o.c. ....                       | SF          | 0.013          | 0.49            | 1.36         | 1.85         |
| 4", 20 ga.                          |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.020          | 1.57            | 2.04         | 3.61         |
| 16" o.c. ....                       | SF          | 0.016          | 1.18            | 1.63         | 2.81         |
| 24" o.c. ....                       | SF          | 0.013          | 0.78            | 1.36         | 2.14         |
| 25 ga.                              |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.020          | 1.21            | 2.04         | 3.25         |
| 16" o.c. ....                       | SF          | 0.016          | 0.91            | 1.63         | 2.54         |
| 24" o.c. ....                       | SF          | 0.013          | 0.60            | 1.36         | 1.96         |
| 6", 20 ga.                          |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.025          | 1.69            | 2.55         | 4.24         |
| 16" o.c. ....                       | SF          | 0.020          | 1.26            | 2.04         | 3.30         |
| 24" o.c. ....                       | SF          | 0.017          | 0.84            | 1.70         | 2.54         |
| 25 ga.                              |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.025          | 1.30            | 2.55         | 3.85         |
| 16" o.c. ....                       | SF          | 0.020          | 0.98            | 2.04         | 3.02         |
| 24" o.c. ....                       | SF          | 0.017          | 0.65            | 1.70         | 2.35         |
| Tracks, 20 ga.                      |             |                |                 |              |              |
| 1-5/8" ....                         | LF          | 0.012          | 0.74            | 1.25         | 1.99         |
| 2-1/2" ....                         | LF          | 0.012          | 0.77            | 1.25         | 2.02         |
| 3-5/8" ....                         | LF          | 0.012          | 0.89            | 1.25         | 2.14         |
| 4" ....                             | LF          | 0.012          | 1.20            | 1.25         | 2.45         |
| 6" ....                             | LF          | 0.013          | 1.26            | 1.29         | 2.55         |
| 25 ga.                              |             |                |                 |              |              |
| 1-5/8" ....                         | LF          | 0.012          | 0.68            | 1.25         | 1.93         |
| 2-1/2" ....                         | LF          | 0.012          | 0.70            | 1.25         | 1.95         |
| 3-5/8" ....                         | LF          | 0.012          | 0.74            | 1.25         | 1.99         |
| 4" ....                             | LF          | 0.012          | 0.91            | 1.25         | 2.16         |
| 6" ....                             | LF          | 0.013          | 0.98            | 1.29         | 2.27         |
| Load bearing studs, galvanized      |             |                |                 |              |              |
| 3-5/8", 16 ga.                      |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.040          | 2.05            | 4.09         | 6.14         |
| 16" o.c. ....                       | SF          | 0.036          | 1.63            | 3.63         | 5.26         |
| 18 ga.                              |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.040          | 1.54            | 4.09         | 5.63         |
| 16" o.c. ....                       | SF          | 0.036          | 1.18            | 3.63         | 4.81         |
| 4", 16 ga.                          |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.040          | 2.19            | 4.09         | 6.28         |
| 16" o.c. ....                       | SF          | 0.036          | 1.70            | 3.63         | 5.33         |
| 6", 16 ga.                          |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.040          | 2.76            | 4.09         | 6.85         |
| 16" o.c. ....                       | SF          | 0.036          | 2.13            | 3.63         | 5.76         |

## DIVISION 09 FINISHES

|                                     | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>09211.61 METAL STUDS (Cont.)</b> |             |                |                 |              |              |
| Furring                             |             |                |                 |              |              |
| On beams and columns                |             |                |                 |              |              |
| 7/8" channel .....                  | LF          | 0.053          | 0.65            | 5.45         | 6.10         |
| 1-1/2" channel .....                | LF          | 0.062          | 0.77            | 6.29         | 7.06         |
| On ceilings                         |             |                |                 |              |              |
| 3/4" furring channels               |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.033          | 0.45            | 3.40         | 3.85         |
| 16" o.c. ....                       | SF          | 0.032          | 0.34            | 3.27         | 3.61         |
| 24" o.c. ....                       | SF          | 0.029          | 0.22            | 2.92         | 3.14         |
| 1-1/2" furring channels             |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.036          | 0.77            | 3.71         | 4.48         |
| 16" o.c. ....                       | SF          | 0.033          | 0.58            | 3.40         | 3.98         |
| 24" o.c. ....                       | SF          | 0.031          | 0.38            | 3.14         | 3.52         |
| On walls                            |             |                |                 |              |              |
| 3/4" furring channels               |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.027          | 0.45            | 2.72         | 3.17         |
| 16" o.c. ....                       | SF          | 0.025          | 0.34            | 2.55         | 2.89         |
| 24" o.c. ....                       | SF          | 0.024          | 0.22            | 2.40         | 2.62         |
| 1-1/2" furring channels             |             |                |                 |              |              |
| 12" o.c. ....                       | SF          | 0.029          | 0.77            | 2.92         | 3.69         |
| 16" o.c. ....                       | SF          | 0.027          | 0.58            | 2.72         | 3.30         |
| 24" o.c. ....                       | SF          | 0.025          | 0.38            | 2.55         | 2.93         |
| <b>09223.61 GYPSUM LATH</b>         |             |                |                 |              |              |
| GYPSUM LATH                         |             |                |                 |              |              |
| Gypsum lath, 1/2" thick             |             |                |                 |              |              |
| Clipped .....                       | SY          | 0.044          | 5.12            | 4.54         | 9.66         |
| Nailed .....                        | SY          | 0.050          | 5.12            | 5.11         | 10.23        |
| <b>09223.62 METAL LATH</b>          |             |                |                 |              |              |
| METAL LATH                          |             |                |                 |              |              |
| Diamond expanded, galvanized        |             |                |                 |              |              |
| 2.5 lb., on walls                   |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.100          | 6.58            | 10.25        | 16.83        |
| Wired .....                         | SY          | 0.114          | 6.58            | 11.75        | 18.33        |
| On ceilings                         |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.114          | 6.58            | 11.75        | 18.33        |
| Wired .....                         | SY          | 0.133          | 6.58            | 13.75        | 20.33        |
| 3.4 lb., on walls                   |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.100          | 8.94            | 10.25        | 19.19        |
| Wired .....                         | SY          | 0.114          | 8.94            | 11.75        | 20.69        |
| On ceilings                         |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.114          | 8.94            | 11.75        | 20.69        |
| Wired .....                         | SY          | 0.133          | 8.94            | 13.75        | 22.69        |
| Flat rib                            |             |                |                 |              |              |
| 2.75 lb., on walls                  |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.100          | 6.22            | 10.25        | 16.47        |
| Wired .....                         | SY          | 0.114          | 8.94            | 11.75        | 20.69        |
| On ceilings                         |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.114          | 8.94            | 11.75        | 20.69        |
| Wired .....                         | SY          | 0.133          | 8.94            | 13.75        | 22.69        |
| 3.4 lb., on walls                   |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.100          | 8.94            | 10.25        | 19.19        |
| Wired .....                         | SY          | 0.114          | 7.49            | 11.75        | 19.24        |
| On ceilings                         |             |                |                 |              |              |
| Nailed .....                        | SY          | 0.114          | 7.49            | 11.75        | 19.24        |
| Wired .....                         | SY          | 0.133          | 7.49            | 13.75        | 21.24        |
| Stucco lath                         |             |                |                 |              |              |
| 1.8 lb. ....                        | SY          | 0.100          | 7.73            | 10.25        | 17.98        |
| 3.6 lb. ....                        | SY          | 0.100          | 8.68            | 10.25        | 18.93        |
| Paper backed                        |             |                |                 |              |              |
| Minimum .....                       | SY          | 0.080          | 6.02            | 8.18         | 14.20        |
| Maximum .....                       | SY          | 0.114          | 9.70            | 11.75        | 21.45        |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09223.66 PLASTER ACCESSORIES</b>      |             |                |                 |              |              |
| PLASTER ACCESSORIES                      |             |                |                 |              |              |
| Expansion joint, 3/4", 26 ga., galv.     | LF          | 0.020          | 1.69            | 2.04         | 3.73         |
| Plaster corner beads, 3/4", galvanized   | LF          | 0.023          | 0.47            | 2.33         | 2.80         |
| Casing bead, expanded flange, galvanized | LF          | 0.020          | 0.64            | 2.04         | 2.68         |
| Expanded wing, 1-1/4" wide, galvanized   | LF          | 0.020          | 0.75            | 2.04         | 2.79         |
| Joint clips for lath                     | EA          | 0.004          | 0.20            | 0.40         | 0.60         |
| Metal base, galvanized, 2-1/2" high      | LF          | 0.027          | 0.86            | 2.72         | 3.58         |
| Stud clips for gypsum lath               | EA          | 0.004          | 0.20            | 0.40         | 0.60         |
| Tie wire galvanized, 18 ga., 25 lb. hank | EA          |                |                 |              | 54.00        |
| Sound deadening board, 1/4"              | SF          | 0.013          | 0.36            | 1.36         | 1.72         |

### **09230.01 PLASTER**

#### PLASTER

Gypsum plaster, trowel finish, 2 coats

|          |    |       |      |       |       |
|----------|----|-------|------|-------|-------|
| Ceilings | SY | 0.250 | 6.70 | 23.75 | 30.45 |
| Walls    | SY | 0.235 | 6.70 | 22.50 | 29.20 |

3 coats

|          |    |       |      |       |       |
|----------|----|-------|------|-------|-------|
| Ceilings | SY | 0.348 | 9.30 | 33.25 | 42.55 |
| Walls    | SY | 0.308 | 9.30 | 29.25 | 38.55 |

Vermiculite plaster

2 coats

|          |    |       |      |       |       |
|----------|----|-------|------|-------|-------|
| Ceilings | SY | 0.381 | 5.59 | 36.25 | 41.84 |
| Walls    | SY | 0.348 | 5.59 | 33.25 | 38.84 |

3 coats

|          |    |       |      |       |       |
|----------|----|-------|------|-------|-------|
| Ceilings | SY | 0.471 | 8.79 | 44.75 | 53.54 |
| Walls    | SY | 0.421 | 8.79 | 40.25 | 49.04 |

Keenes cement plaster

2 coats

|          |    |       |      |       |       |
|----------|----|-------|------|-------|-------|
| Ceilings | SY | 0.308 | 3.34 | 29.25 | 32.59 |
| Walls    | SY | 0.267 | 3.34 | 25.50 | 28.84 |

3 coats

|          |    |       |      |       |       |
|----------|----|-------|------|-------|-------|
| Ceilings | SY | 0.348 | 3.12 | 33.25 | 36.37 |
| Walls    | SY | 0.308 | 3.12 | 29.25 | 32.37 |

On columns, add to installation, 50%

Chases, fascia, and soffits, add to installation, 50%

Beams, add to installation, 50%

Patch holes, average size holes

1 sf to 5 sf

|         |    |       |      |       |       |
|---------|----|-------|------|-------|-------|
| Minimum | SF | 0.133 | 2.57 | 12.75 | 15.32 |
| Average | SF | 0.160 | 2.57 | 15.25 | 17.82 |
| Maximum | SF | 0.200 | 2.57 | 19.00 | 21.57 |

Over 5 sf

|         |    |       |      |       |       |
|---------|----|-------|------|-------|-------|
| Minimum | SF | 0.080 | 2.57 | 7.62  | 10.19 |
| Average | SF | 0.114 | 2.57 | 11.00 | 13.57 |
| Maximum | SF | 0.133 | 2.57 | 12.75 | 15.32 |

Patch cracks

|         |    |       |      |      |       |
|---------|----|-------|------|------|-------|
| Minimum | SF | 0.027 | 2.57 | 2.54 | 5.11  |
| Average | SF | 0.040 | 2.57 | 3.81 | 6.38  |
| Maximum | SF | 0.080 | 2.57 | 7.62 | 10.19 |

### **09240.01 PORTLAND CEMENT PLASTER**

#### PORLTAND CEMENT PLASTER

Stucco, portland, gray, 3 coat, 1" thick

|               |    |       |       |       |       |
|---------------|----|-------|-------|-------|-------|
| Sand finish   | SY | 0.348 | 12.25 | 33.25 | 45.50 |
| Trowel finish | SY | 0.364 | 12.25 | 34.75 | 47.00 |

White cement

|               |    |       |       |       |       |
|---------------|----|-------|-------|-------|-------|
| Sand finish   | SY | 0.364 | 14.00 | 34.75 | 48.75 |
| Trowel finish | SY | 0.400 | 14.00 | 38.00 | 52.00 |

Scratch coat

|                  |    |       |      |      |       |
|------------------|----|-------|------|------|-------|
| For ceramic tile | SY | 0.080 | 4.45 | 7.62 | 12.07 |
| For quarry tile  | SY | 0.080 | 4.45 | 7.62 | 12.07 |

Portland cement plaster

|               |    |       |       |       |       |
|---------------|----|-------|-------|-------|-------|
| 2 coats, 1/2" | SY | 0.160 | 8.84  | 15.25 | 24.09 |
| 3 coats, 7/8" | SY | 0.200 | 10.50 | 19.00 | 29.50 |

## DIVISION 09 FINISHES

|                                      |    | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|----|-------------|----------------|-----------------|--------------|--------------|
| <b>09290.01 GYPSUM BOARD</b>         |    |             |                |                 |              |              |
| GYPSUM BOARD                         |    |             |                |                 |              |              |
| Vinyl faced, fastened to metal studs |    |             |                |                 |              |              |
| 1/2" thick .....                     | SF | 0.010       | 1.24           | 1.02            | 2.26         |              |
| 5/8" thick .....                     | SF | 0.010       | 1.18           | 1.02            | 2.20         |              |
| Standard drywall, 3/8" thick         |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.008       | 0.46           | 0.81            | 1.27         |              |
| Columns and beams .....              | SF | 0.018       | 0.46           | 1.81            | 2.27         |              |
| Walls .....                          | SF | 0.007       | 0.46           | 0.74            | 1.20         |              |
| 1/2" thick                           |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.008       | 0.43           | 0.81            | 1.24         |              |
| Columns and beams .....              | SF | 0.018       | 0.43           | 1.81            | 2.24         |              |
| Walls .....                          | SF | 0.007       | 0.43           | 0.74            | 1.17         |              |
| 5/8" thick                           |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.010       | 0.48           | 1.02            | 1.50         |              |
| Columns and beams .....              | SF | 0.022       | 0.48           | 2.27            | 2.75         |              |
| Walls .....                          | SF | 0.009       | 0.48           | 0.90            | 1.38         |              |
| Lightweight drywall, 1/2" thick      |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.008       | 0.41           | 0.81            | 1.22         |              |
| Columns and beams .....              | SF | 0.018       | 0.41           | 1.81            | 2.22         |              |
| Walls .....                          | SF | 0.007       | 0.41           | 0.74            | 1.15         |              |
| 5/8" thick                           |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.010       | 0.45           | 1.02            | 1.47         |              |
| Columns and beams .....              | SF | 0.022       | 0.45           | 2.27            | 2.72         |              |
| Walls .....                          | SF | 0.009       | 0.45           | 0.90            | 1.35         |              |
| Mold resistant drywall, 1/2" thick   |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.008       | 0.60           | 0.81            | 1.41         |              |
| Columns and beams .....              | SF | 0.018       | 0.60           | 1.81            | 2.41         |              |
| Walls .....                          | SF | 0.007       | 0.60           | 0.74            | 1.34         |              |
| 5/8" thick                           |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.010       | 0.65           | 1.02            | 1.67         |              |
| Columns and beams .....              | SF | 0.022       | 0.65           | 2.27            | 2.92         |              |
| Walls .....                          | SF | 0.009       | 0.65           | 0.90            | 1.55         |              |
| Blue Board drywall, 1/2" thick       |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.008       | 0.52           | 0.81            | 1.33         |              |
| Columns and beams .....              | SF | 0.018       | 0.52           | 1.81            | 2.33         |              |
| Walls .....                          | SF | 0.007       | 0.52           | 0.74            | 1.26         |              |
| 5/8" thick                           |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.010       | 0.57           | 1.02            | 1.59         |              |
| Columns and beams .....              | SF | 0.022       | 0.57           | 2.27            | 2.84         |              |
| Walls .....                          | SF | 0.009       | 0.57           | 0.90            | 1.47         |              |
| Soundproof drywall, 1/2" thick       |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.008       | 1.80           | 0.81            | 2.61         |              |
| Columns and beams .....              | SF | 0.018       | 1.80           | 1.81            | 3.61         |              |
| Walls .....                          | SF | 0.007       | 1.80           | 0.74            | 2.54         |              |
| 5/8" thick                           |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.010       | 2.00           | 1.02            | 3.02         |              |
| Columns and beams .....              | SF | 0.022       | 2.00           | 2.27            | 4.27         |              |
| Walls .....                          | SF | 0.009       | 2.00           | 0.90            | 2.90         |              |
| Fire-resistant drywall, 1/2" thick   |    |             |                |                 |              |              |
| Nailed or screwed to                 |    |             |                |                 |              |              |
| Wood or metal framed ceiling .....   | SF | 0.008       | 0.52           | 0.81            | 1.33         |              |
| Columns and beams .....              | SF | 0.018       | 0.52           | 1.81            | 2.33         |              |
| Walls .....                          | SF | 0.007       | 0.52           | 0.74            | 1.26         |              |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09290.01 GYPSUM BOARD (Cont.)</b>             |             |                |                 |              |              |
| Fire-resistant drywall, 1/2" thick               |             |                |                 |              |              |
| 5/8" thick                                       |             |                |                 |              |              |
| Nailed or screwed to                             |             |                |                 |              |              |
| Wood or metal framed ceiling                     | SF          | 0.010          | 0.57            | 1.02         | 1.59         |
| Columns and beams                                | SF          | 0.022          | 0.57            | 2.27         | 2.84         |
| Walls  | SF          | 0.009          | 0.57            | 0.90         | 1.47         |
| Impact-resistant drywall, 5/8" thick             |             |                |                 |              |              |
| Nailed or screwed to                             |             |                |                 |              |              |
| Wood or metal framed ceiling                     | SF          | 0.010          | 0.94            | 1.02         | 1.96         |
| Columns and beams                                | SF          | 0.022          | 0.94            | 2.27         | 3.21         |
| Walls  | SF          | 0.009          | 0.94            | 0.90         | 1.84         |
| High-flex drywall, 1/4" thick, nailed or screwed |             |                |                 |              |              |
| Walls  | SF          | 0.009          | 0.48            | 0.90         | 1.38         |
| Shaftwall drywall, 1" thick, nailed or screwed   |             |                |                 |              |              |
| Walls  | SF          | 0.011          | 0.89            | 1.16         | 2.05         |
| Stretch drywall, 1/2" thick                      |             |                |                 |              |              |
| Nailed or screwed to                             |             |                |                 |              |              |
| Wood or metal framed ceiling                     | SF          | 0.009          | 0.34            | 0.90         | 1.24         |
| Walls  | SF          | 0.008          | 0.34            | 0.81         | 1.15         |
| Tile backer board, screwed to wall               |             |                |                 |              |              |
| 1/4" thick                                       | SF          | 0.032          | 1.02            | 3.27         | 4.29         |
| 7/16" thick                                      | SF          | 0.032          | 1.14            | 3.27         | 4.41         |
| 1/2" thick                                       | SF          | 0.032          | 0.97            | 3.27         | 4.24         |
| 5/8" thick                                       | SF          | 0.032          | 1.13            | 3.27         | 4.40         |
| Casing bead                                      |             |                |                 |              |              |
| Minimum  | LF          | 0.023          | 0.17            | 2.33         | 2.50         |
| Average  | LF          | 0.027          | 0.18            | 2.72         | 2.90         |
| Maximum  | LF          | 0.040          | 0.23            | 4.09         | 4.32         |
| Corner bead                                      |             |                |                 |              |              |
| Minimum  | LF          | 0.023          | 0.18            | 2.33         | 2.51         |
| Average  | LF          | 0.027          | 0.23            | 2.72         | 2.95         |
| Maximum  | LF          | 0.040          | 0.28            | 4.09         | 4.37         |
| Taping and finishing joints                      |             |                |                 |              |              |
| Level 1  | SF          | 0.005          | 0.05            | 0.54         | 0.59         |
| Level 2  | SF          | 0.006          | 0.05            | 0.62         | 0.67         |
| Level 3  | SF          | 0.007          | 0.07            | 0.68         | 0.75         |
| Level 4  | SF          | 0.008          | 0.06            | 0.81         | 0.87         |
| Level 5 (includes skim coat)                     | SF          | 0.008          | 0.11            | 0.81         | 0.92         |
| Add to above for Special Textures                |             |                |                 |              |              |
| Orange Peel                                      | SF          | 0.013          | 0.40            | 1.36         | 1.76         |
| Santa-Fe   | SF          | 0.016          | 0.57            | 1.63         | 2.20         |
| Skip Trowel                                      | SF          | 0.015          | 0.51            | 1.48         | 1.99         |
| Smooth   | SF          | 0.013          | 0.40            | 1.36         | 1.76         |
| Splatter Knockdown                               | SF          | 0.015          | 0.51            | 1.48         | 1.99         |
| Swirl  | SF          | 0.018          | 0.51            | 1.81         | 2.32         |
| Rosebud  | SF          | 0.018          | 0.51            | 1.81         | 2.32         |
| Popcorn  | SF          | 0.015          | 0.51            | 1.48         | 1.99         |
| <b>09301.31 CERAMIC TILE</b>                     |             |                |                 |              |              |
| CERAMIC TILE                                     |             |                |                 |              |              |
| Glazed wall tile, 4-1/4" x 4-1/4"                |             |                |                 |              |              |
| Minimum  | SF          | 0.057          | 2.57            | 5.57         | 8.14         |
| Average  | SF          | 0.067          | 4.08            | 6.50         | 10.58        |
| Maximum  | SF          | 0.080          | 14.50           | 7.80         | 22.30        |
| Base, 4-1/4" high                                |             |                |                 |              |              |
| Minimum  | LF          | 0.100          | 4.72            | 9.75         | 14.47        |
| Average  | LF          | 0.100          | 5.48            | 9.75         | 15.23        |
| Maximum  | LF          | 0.100          | 7.25            | 9.75         | 17.00        |
| Unglazed floor tile                              |             |                |                 |              |              |
| Portland cem., cushion edge, face mtd            |             |                |                 |              |              |
| 1" x 1"  | SF          | 0.073          | 17.75           | 7.09         | 24.84        |
| 2" x 2"  | SF          | 0.067          | 18.75           | 6.50         | 25.25        |
| 4" x 4"  | SF          | 0.067          | 17.50           | 6.50         | 24.00        |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09301.31 CERAMIC TILE (Cont.)</b>               |             |                |                 |              |              |
| Unglazed floor tile                                |             |                |                 |              |              |
| Adhesive bed, with white grout                     |             |                |                 |              |              |
| 1" x 1" .....                                      | SF          | 0.073          | 14.75           | 7.09         | 21.84        |
| 4" x 4" .....                                      | SF          | 0.067          | 15.75           | 6.50         | 22.25        |
| Organic adhesive bed, thin set, back mounted       |             |                |                 |              |              |
| 1" x 1" .....                                      | SF          | 0.073          | 14.75           | 7.09         | 21.84        |
| 2" x 2" .....                                      | SF          | 0.067          | 17.25           | 6.50         | 23.75        |
| For group 2 colors, add to material, 10%           |             |                |                 |              |              |
| For group 3 colors, add to material, 20%           |             |                |                 |              |              |
| For abrasive surface, add to material, 25%         |             |                |                 |              |              |
| Unglazed wall tile                                 |             |                |                 |              |              |
| Organic adhesive, face mounted cushion edge        |             |                |                 |              |              |
| 1" x 1"  |             |                |                 |              |              |
| Minimum .....                                      | SF          | 0.067          | 6.87            | 6.50         | 13.37        |
| Average .....                                      | SF          | 0.073          | 9.00            | 7.09         | 16.09        |
| Maximum .....                                      | SF          | 0.080          | 13.50           | 7.80         | 21.30        |
| 2" x 2"  |             |                |                 |              |              |
| Minimum .....                                      | SF          | 0.062          | 7.94            | 6.00         | 13.94        |
| Average .....                                      | SF          | 0.067          | 9.00            | 6.50         | 15.50        |
| Maximum .....                                      | SF          | 0.073          | 14.75           | 7.09         | 21.84        |
| Back mounted                                       |             |                |                 |              |              |
| 1" x 1"  |             |                |                 |              |              |
| Minimum .....                                      | SF          | 0.067          | 6.87            | 6.50         | 13.37        |
| Average .....                                      | SF          | 0.073          | 9.00            | 7.09         | 16.09        |
| Maximum .....                                      | SF          | 0.080          | 13.50           | 7.80         | 21.30        |
| 2" x 2"  |             |                |                 |              |              |
| Minimum .....                                      | SF          | 0.062          | 7.94            | 6.00         | 13.94        |
| Average .....                                      | SF          | 0.067          | 9.00            | 6.50         | 15.50        |
| Maximum .....                                      | SF          | 0.073          | 14.75           | 7.09         | 21.84        |
| For glazed finish, add to material, 25%            |             |                |                 |              |              |
| For glazed mosaic, add to material, 100%           |             |                |                 |              |              |
| For metallic colors, add to material, 125%         |             |                |                 |              |              |
| For exterior wall use, add to total, 25%           |             |                |                 |              |              |
| For exterior soffit, add to total, 25%             |             |                |                 |              |              |
| For portland cement bed, add to total, 25%         |             |                |                 |              |              |
| For dry set portland cement bed, add to total, 10% |             |                |                 |              |              |
| Ceramic accessories                                |             |                |                 |              |              |
| Towel bar, 24" long                                |             |                |                 |              |              |
| Minimum .....                                      | EA          | 0.320          | 19.00           | 31.25        | 50.25        |
| Average .....                                      | EA          | 0.400          | 23.25           | 39.00        | 62.25        |
| Maximum .....                                      | EA          | 0.533          | 63.00           | 52.00        | 115.00       |
| Soap dish  |             |                |                 |              |              |
| Minimum .....                                      | EA          | 0.533          | 8.93            | 52.00        | 60.93        |
| Average .....                                      | EA          | 0.667          | 12.00           | 65.00        | 77.00        |
| Maximum .....                                      | EA          | 0.800          | 32.00           | 78.00        | 110.00       |

### **09301.61 QUARRY TILE**

#### QUARRY TILE

##### Floor

|              |    |       |      |       |       |
|--------------|----|-------|------|-------|-------|
| 4 x 4 x 1/2" | SF | 0.107 | 6.93 | 10.50 | 17.43 |
| 6 x 6 x 1/2" | SF | 0.100 | 6.79 | 9.75  | 16.54 |
| 6 x 6 x 3/4" | SF | 0.100 | 8.43 | 9.75  | 18.18 |

##### Wall, applied to 3/4" portland cement bed

|              |    |       |      |       |       |
|--------------|----|-------|------|-------|-------|
| 4 x 4 x 1/2" | SF | 0.160 | 6.16 | 15.50 | 21.66 |
| 6 x 6 x 3/4" | SF | 0.133 | 6.89 | 13.00 | 19.89 |

##### Cove base

|                           |    |       |      |       |       |
|---------------------------|----|-------|------|-------|-------|
| 5 x 6 x 1/2" straight top | LF | 0.133 | 7.03 | 13.00 | 20.03 |
| 6 x 6 x 3/4" round top    | LF | 0.133 | 6.52 | 13.00 | 19.52 |

##### Stair treads 6 x 6 x 3/4"

|                          |    |       |      |       |       |
|--------------------------|----|-------|------|-------|-------|
| Window sill 6 x 8 x 3/4" | LF | 0.200 | 9.63 | 19.50 | 29.13 |
|                          | LF | 0.160 | 8.79 | 15.50 | 24.29 |

## DIVISION 09 FINISHES

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>09301.61 QUARRY TILE (Cont.)</b>                 |             |                |                 |              |              |
| For abrasive surface, add to material, 25%          |             |                |                 |              |              |
| <b>09510.01 CEILINGS AND WALLS</b>                  |             |                |                 |              |              |
| CEILINGS AND WALLS                                  |             |                |                 |              |              |
| Acoustical panels, suspension system not included   |             |                |                 |              |              |
| Fiberglass panels                                   |             |                |                 |              |              |
| 5/8" thick  |             |                |                 |              |              |
| 2' x 2' .....                                       | SF          | ..... 0.011    | ..... 1.96      | ..... 1.16   | ..... 3.12   |
| 2' x 4' .....                                       | SF          | ..... 0.009    | ..... 1.62      | ..... 0.90   | ..... 2.52   |
| 3/4" thick  |             |                |                 |              |              |
| 2' x 2' .....                                       | SF          | ..... 0.011    | ..... 2.60      | ..... 1.16   | ..... 3.76   |
| 2' x 4' .....                                       | SF          | ..... 0.009    | ..... 2.52      | ..... 0.90   | ..... 3.42   |
| Glass cloth faced fiberglass panels                 |             |                |                 |              |              |
| 3/4" thick .....                                    | SF          | ..... 0.013    | ..... 3.71      | ..... 1.36   | ..... 5.07   |
| 1" thick .....                                      | SF          | ..... 0.013    | ..... 4.13      | ..... 1.36   | ..... 5.49   |
| Wood laminate faced, minimum .....                  | SF          | ..... 0.016    | ..... 12.75     | ..... 1.63   | ..... 14.38  |
| Maximum .....                                       | SF          | ..... 0.018    | ..... 15.00     | ..... 1.81   | ..... 16.81  |
| Mineral fiber panels                                |             |                |                 |              |              |
| 5/8" thick  |             |                |                 |              |              |
| 2' x 2' .....                                       | SF          | ..... 0.011    | ..... 1.66      | ..... 1.16   | ..... 2.82   |
| 2' x 4' .....                                       | SF          | ..... 0.009    | ..... 1.66      | ..... 0.90   | ..... 2.56   |
| 3/4" thick  |             |                |                 |              |              |
| 2' x 2' .....                                       | SF          | ..... 0.011    | ..... 2.60      | ..... 1.16   | ..... 3.76   |
| 2' x 4' .....                                       | SF          | ..... 0.009    | ..... 2.55      | ..... 0.90   | ..... 3.45   |
| Wood fiber panels                                   |             |                |                 |              |              |
| 1/2" thick  |             |                |                 |              |              |
| 2' x 2' .....                                       | SF          | ..... 0.011    | ..... 2.80      | ..... 1.16   | ..... 3.96   |
| 2' x 4' .....                                       | SF          | ..... 0.009    | ..... 2.80      | ..... 0.90   | ..... 3.70   |
| 5/8" thick  |             |                |                 |              |              |
| 2' x 2' .....                                       | SF          | ..... 0.011    | ..... 3.22      | ..... 1.16   | ..... 4.38   |
| 2' x 4' .....                                       | SF          | ..... 0.009    | ..... 3.22      | ..... 0.90   | ..... 4.12   |
| Acoustical tiles, suspension system not included    |             |                |                 |              |              |
| Fiberglass tile, 12" x 12"                          |             |                |                 |              |              |
| 5/8" thick .....                                    | SF          | ..... 0.015    | ..... 2.11      | ..... 1.48   | ..... 3.59   |
| 3/4" thick .....                                    | SF          | ..... 0.018    | ..... 2.45      | ..... 1.81   | ..... 4.26   |
| Glass cloth faced fiberglass tile                   |             |                |                 |              |              |
| 3/4" thick .....                                    | SF          | ..... 0.018    | ..... 3.93      | ..... 1.81   | ..... 5.74   |
| 3" thick .....                                      | SF          | ..... 0.020    | ..... 4.40      | ..... 2.04   | ..... 6.44   |
| Mineral fiber tile, 12" x 12"                       |             |                |                 |              |              |
| 5/8" thick  |             |                |                 |              |              |
| Standard .....                                      | SF          | ..... 0.016    | ..... 1.10      | ..... 1.63   | ..... 2.73   |
| Vinyl faced .....                                   | SF          | ..... 0.016    | ..... 2.20      | ..... 1.63   | ..... 3.83   |
| 3/4" thick  |             |                |                 |              |              |
| Standard .....                                      | SF          | ..... 0.016    | ..... 1.61      | ..... 1.63   | ..... 3.24   |
| Vinyl faced .....                                   | SF          | ..... 0.016    | ..... 2.81      | ..... 1.63   | ..... 4.44   |
| Ceiling suspension systems                          |             |                |                 |              |              |
| T-bar system  |             |                |                 |              |              |
| 2' x 4' .....                                       | SF          | ..... 0.008    | ..... 1.34      | ..... 0.81   | ..... 2.15   |
| 2' x 2' .....                                       | SF          | ..... 0.009    | ..... 1.45      | ..... 0.90   | ..... 2.35   |
| Concealed Z-bar suspension system, 12" module ..... | SF          | ..... 0.013    | ..... 1.38      | ..... 1.36   | ..... 2.74   |
| For 1-1/2" carrier channels, 4' o.c., add .....     | SF          |                |                 |              | ..... 0.44   |
| Carrier channel for recessed light fixtures .....   | SF          |                |                 |              | ..... 0.80   |
| T-bar system grid components                        |             |                |                 |              |              |
| 2' Cross Tee .....                                  | EA          | ..... 0.010    | ..... 2.32      | ..... 1.02   | ..... 3.34   |
| 4' Cross Tee .....                                  | EA          | ..... 0.011    | ..... 4.64      | ..... 1.09   | ..... 5.73   |
| Main Beam .....                                     | LF          | ..... 0.011    | ..... 1.27      | ..... 1.16   | ..... 2.43   |
| Wall Molding .....                                  | LF          | ..... 0.008    | ..... 0.69      | ..... 0.81   | ..... 1.50   |
| Ceiling tile, quick costs                           |             |                |                 |              |              |
| Minimum .....                                       | SF          | ..... 0.016    | ..... 1.85      | ..... 1.63   | ..... 3.48   |
| Average .....                                       | SF          | ..... 0.018    | ..... 2.61      | ..... 1.81   | ..... 4.42   |
| Maximum .....                                       | SF          | ..... 0.020    | ..... 6.49      | ..... 2.04   | ..... 8.53   |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>09631.61 UNIT MASONRY FLOORING</u></b>             |             |                |                 |              |              |
| UNIT MASONRY FLOORING                                    |             |                |                 |              |              |
| Clay brick   |             |                |                 |              |              |
| 9 x 4-1/2 x 3" thick                                     |             |                |                 |              |              |
| Glazed .....   | SF .....    | 0.067 .....    | 7.44 .....      | 6.81 .....   | 14.25 .....  |
| Unglazed .....   | SF .....    | 0.067 .....    | 7.13 .....      | 6.81 .....   | 13.94 .....  |
| 8 x 4 x 3/4" thick                                       |             |                |                 |              |              |
| Glazed .....   | SF .....    | 0.070 .....    | 6.73 .....      | 7.11 .....   | 13.84 .....  |
| Unglazed .....   | SF .....    | 0.070 .....    | 6.42 .....      | 7.11 .....   | 13.53 .....  |
| For herringbone pattern, add to labor, 15%               |             |                |                 |              |              |
| <b><u>09640.01 WOOD FLOORING</u></b>                     |             |                |                 |              |              |
| WOOD FLOORING  |             |                |                 |              |              |
| Wood strip flooring, unfinished                          |             |                |                 |              |              |
| Fir floor  |             |                |                 |              |              |
| C and better   |             |                |                 |              |              |
| Vertical grain.....                                      | SF .....    | 0.027 .....    | 3.64 .....      | 2.72 .....   | 6.36 .....   |
| Flat grain.....  | SF .....    | 0.027 .....    | 4.55 .....      | 2.72 .....   | 7.27 .....   |
| Oak floor  |             |                |                 |              |              |
| Minimum .....  | SF .....    | 0.038 .....    | 3.85 .....      | 3.89 .....   | 7.74 .....   |
| Average .....  | SF .....    | 0.038 .....    | 5.31 .....      | 3.89 .....   | 9.20 .....   |
| Maximum .....  | SF .....    | 0.038 .....    | 7.69 .....      | 3.89 .....   | 11.58 .....  |
| Maple floor  |             |                |                 |              |              |
| 25/32" x 2-1/4"  |             |                |                 |              |              |
| Minimum .....  | SF .....    | 0.038 .....    | 5.50 .....      | 3.89 .....   | 9.39 .....   |
| Maximum .....  | SF .....    | 0.038 .....    | 7.80 .....      | 3.89 .....   | 11.69 .....  |
| 33/32" x 3-1/4"  |             |                |                 |              |              |
| Minimum .....  | SF .....    | 0.038 .....    | 7.68 .....      | 3.89 .....   | 11.57 .....  |
| Maximum .....  | SF .....    | 0.038 .....    | 8.68 .....      | 3.89 .....   | 12.57 .....  |
| Added costs  |             |                |                 |              |              |
| For factory finish, add to material, 10%                 |             |                |                 |              |              |
| For random width floor, add to total, 20%                |             |                |                 |              |              |
| For simulated pegs, add to total, 10%                    |             |                |                 |              |              |
| Wood block industrial flooring                           |             |                |                 |              |              |
| Creosoted  |             |                |                 |              |              |
| 2" thick .....   | SF .....    | 0.021 .....    | 4.34 .....      | 2.15 .....   | 6.49 .....   |
| 2-1/2" thick .....                                       | SF .....    | 0.025 .....    | 4.52 .....      | 2.55 .....   | 7.07 .....   |
| 3" thick .....   | SF .....    | 0.027 .....    | 4.69 .....      | 2.72 .....   | 7.41 .....   |
| Parquet, 5/16", white oak                                |             |                |                 |              |              |
| Finished .....   | SF .....    | 0.040 .....    | 10.50 .....     | 4.09 .....   | 14.59 .....  |
| Unfinished .....   | SF .....    | 0.040 .....    | 5.04 .....      | 4.09 .....   | 9.13 .....   |
| Gym floor, 2 ply felt, 25/32" maple, finished, in mastic |             |                |                 |              |              |
| Over wood sleepers .....                                 | SF .....    | 0.044 .....    | 8.88 .....      | 4.54 .....   | 13.42 .....  |
| Finishing, sand, fill, finish, and wax .....             | SF .....    | 0.050 .....    | 9.05 .....      | 5.11 .....   | 14.16 .....  |
| Refinish sand, seal, and 2 coats of polyurethane .....   | SF .....    | 0.020 .....    | 0.69 .....      | 2.04 .....   | 2.73 .....   |
| Clean and wax floors .....                               | SF .....    | 0.027 .....    | 1.20 .....      | 2.72 .....   | 3.92 .....   |
| <b><u>09651.31 RESILIENT BASE AND ACCESSORIES</u></b>    |             |                |                 |              |              |
| RESILIENT BASE AND ACCESSORIES                           |             |                |                 |              |              |
| Wall base, vinyl   |             |                |                 |              |              |
| 4" high .....  | LF .....    | 0.027 .....    | 1.71 .....      | 2.72 .....   | 4.43 .....   |
| 6" high .....  | LF .....    | 0.027 .....    | 2.33 .....      | 2.72 .....   | 5.05 .....   |
| <b><u>09651.61 RESILIENT SHEET FLOORING</u></b>          |             |                |                 |              |              |
| RESILIENT SHEET FLOORING                                 |             |                |                 |              |              |
| Vinyl sheet flooring                                     |             |                |                 |              |              |
| Minimum .....  | SF .....    | 0.008 .....    | 4.39 .....      | 0.81 .....   | 5.20 .....   |
| Average .....  | SF .....    | 0.010 .....    | 9.37 .....      | 0.97 .....   | 10.34 .....  |
| Maximum .....  | SF .....    | 0.013 .....    | 17.75 .....     | 1.36 .....   | 19.11 .....  |
| Cove, to 6" .....  | LF .....    | 0.016 .....    | 5.13 .....      | 1.63 .....   | 6.76 .....   |
| Fluid applied resilient flooring                         |             |                |                 |              |              |
| Polyurethane, poured in place, 3/8" thick .....          | SF .....    | 0.067 .....    | 11.00 .....     | 6.81 .....   | 17.81 .....  |
| Vinyl sheet goods, backed                                |             |                |                 |              |              |
| 0.070" thick .....                                       | SF .....    | 0.010 .....    | 4.26 .....      | 1.02 .....   | 5.28 .....   |
| 0.093" thick .....                                       | SF .....    | 0.010 .....    | 6.60 .....      | 1.02 .....   | 7.62 .....   |
| 0.125" thick .....                                       | SF .....    | 0.010 .....    | 7.62 .....      | 1.02 .....   | 8.64 .....   |
| 0.250" thick .....                                       | SF .....    | 0.010 .....    | 8.77 .....      | 1.02 .....   | 9.79 .....   |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09651.91 RESILIENT TILE FLOORING</b>                                  |             |                |                 |              |              |
| RESILIENT TILE FLOORING  |             |                |                 |              |              |
| Solid vinyl tile, 1/8" thick, 12" x 12"                                  |             |                |                 |              |              |
| Marble patterns.....   | SF          | 0.020          | 5.34            | 2.04         | 7.38         |
| Solid colors .....   | SF          | 0.020          | 6.92            | 2.04         | 8.96         |
| Travertine patterns .....  | SF          | 0.020          | 7.78            | 2.04         | 9.82         |
| Conductive resilient flooring, vinyl tile<br>1/8" thick, 12" x 12" ..... | SF          | 0.023          | 9.28            | 2.33         | 11.61        |
| <b>09661.31 TERRAZZO</b>   |             |                |                 |              |              |
| TERRAZZO   |             |                |                 |              |              |
| Floors on concrete, 1-3/4" thick, 5/8" topping                           |             |                |                 |              |              |
| Gray cement .....  | SF          | 0.114          | 7.25            | 11.00        | 18.25        |
| White cement .....   | SF          | 0.114          | 7.58            | 11.00        | 18.58        |
| Sand cushion, 3" thick, 5/8" top, 1/4"                                   |             |                |                 |              |              |
| Gray cement .....  | SF          | 0.133          | 8.56            | 12.75        | 21.31        |
| White cement .....   | SF          | 0.133          | 8.90            | 12.75        | 21.65        |
| Monolithic terrazzo, 3-1/2" base slab, 5/8" topping .....                | SF          | 0.100          | 6.07            | 9.53         | 15.60        |
| Terrazzo wainscot, cast-in-place, 1/2" thick .....                       | SF          | 0.200          | 7.38            | 19.00        | 26.38        |
| Base, cast-in-place, terrazzo cove type, 6" high .....                   | LF          | 0.114          | 9.28            | 11.00        | 20.28        |
| Curb, cast-in-place, 6" wide x 6" high, polished top .....               | LF          | 0.400          | 8.43            | 38.00        | 46.43        |
| For venetian type terrazzo, add to material, 10%                         |             |                |                 |              |              |
| For abrasive heavy duty terrazzo, add to material, 15%                   |             |                |                 |              |              |
| Divider strips   |             |                |                 |              |              |
| Zinc .....   | LF          |                |                 |              | 1.52         |
| Brass .....  | LF          |                |                 |              | 2.83         |
| Stairs, cast-in-place, topping on concrete or metal                      |             |                |                 |              |              |
| 1-1/2" thick treads, 12" wide .....                                      | LF          | 0.400          | 5.97            | 38.00        | 43.97        |
| Combined tread and riser .....   | LF          | 1.000          | 8.97            | 95.00        | 103.97       |
| Precast terrazzo, thin set   |             |                |                 |              |              |
| Terrazzo tiles, non-slip surface   |             |                |                 |              |              |
| 9" x 9" x 1" thick .....   | SF          | 0.114          | 17.00           | 11.00        | 28.00        |
| 12" x 12"  |             |                |                 |              |              |
| 1" thick .....   | SF          | 0.107          | 18.50           | 10.25        | 28.75        |
| 1-1/2" thick .....   | SF          | 0.114          | 19.25           | 11.00        | 30.25        |
| 18" x 18" x 1-1/2" thick .....   | SF          | 0.114          | 25.25           | 11.00        | 36.25        |
| 24" x 24" x 1-1/2" thick .....   | SF          | 0.094          | 32.25           | 8.97         | 41.22        |
| For white cement, add to material, 10%                                   |             |                |                 |              |              |
| For venetian type terrazzo, add to material, 25%                         |             |                |                 |              |              |
| Terrazzo wainscot  |             |                |                 |              |              |
| 12" x 12" x 1" thick .....   | SF          | 0.200          | 9.41            | 19.00        | 28.41        |
| 18" x 18" x 1-1/2" thick .....   | SF          | 0.229          | 15.25           | 21.75        | 37.00        |
| Base   |             |                |                 |              |              |
| 6" high  |             |                |                 |              |              |
| Straight .....   | LF          | 0.062          | 13.50           | 5.86         | 19.36        |
| Coved .....  | LF          | 0.062          | 16.00           | 5.86         | 21.86        |
| 8" high  |             |                |                 |              |              |
| Straight .....   | LF          | 0.067          | 15.25           | 6.35         | 21.60        |
| Coved .....  | LF          | 0.067          | 17.75           | 6.35         | 24.10        |
| Terrazzo curbs   |             |                |                 |              |              |
| 8" wide x 8" high .....  | LF          | 0.320          | 35.00           | 30.50        | 65.50        |
| 6" wide x 6" high .....  | LF          | 0.267          | 31.75           | 25.50        | 57.25        |
| Precast terrazzo stair treads, 12" wide                                  |             |                |                 |              |              |
| 1-1/2" thick   |             |                |                 |              |              |
| Diamond pattern .....  | LF          | 0.145          | 42.25           | 13.75        | 56.00        |
| Non-slip surface .....   | LF          | 0.145          | 44.50           | 13.75        | 58.25        |
| 2" thick   |             |                |                 |              |              |
| Diamond pattern .....  | LF          | 0.145          | 44.50           | 13.75        | 58.25        |
| Non-slip surface .....   | LF          | 0.160          | 46.75           | 15.25        | 62.00        |
| Stair risers, 1" thick to 6" high  |             |                |                 |              |              |
| Straight sections .....  | LF          | 0.080          | 14.25           | 7.62         | 21.87        |
| Cove sections .....  | LF          | 0.080          | 16.75           | 7.62         | 24.37        |
| Combined tread and riser   |             |                |                 |              |              |
| Straight sections  |             |                |                 |              |              |
| 1-1/2" tread, 3/4" riser .....   | LF          | 0.229          | 61.00           | 21.75        | 82.75        |
| 3" tread, 1" riser .....   | LF          | 0.229          | 73.00           | 21.75        | 94.75        |

## DIVISION 09 FINISHES

|  | Unit | Man-Hrs | Material | Labor | Total  |
|--|------|---------|----------|-------|--------|
| <b>09661.31 TERRAZZO (Cont.)</b>               |      |         |          |       |        |
| Combined tread and riser                       |      |         |          |       |        |
| Curved sections                                |      |         |          |       |        |
| 2" tread, 1" riser .....                       | LF   | 0.267   | 78.00    | 25.50 | 103.50 |
| 3" tread, 1" riser .....                       | LF   | 0.267   | 81.00    | 25.50 | 106.50 |
| Stair stringers, notched for treads and risers |      |         |          |       |        |
| 1" thick .....                                 | LF   | 0.200   | 37.00    | 19.00 | 56.00  |
| 2" thick .....                                 | LF   | 0.267   | 38.25    | 25.50 | 63.75  |
| Landings, structural, nonslip                  |      |         |          |       |        |
| 1-1/2" thick .....                             | SF   | 0.133   | 34.75    | 12.75 | 47.50  |
| 3" thick .....                                 | SF   | 0.160   | 48.75    | 15.25 | 64.00  |
| <b>09680.01 CARPET PADDING</b>                 |      |         |          |       |        |
| CARPET PADDING                                 |      |         |          |       |        |
| Carpet padding                                 |      |         |          |       |        |
| Foam rubber, waffle type, 0.3" thick .....     | SY   | 0.040   | 6.98     | 4.09  | 11.07  |
| Jute padding                                   |      |         |          |       |        |
| Minimum .....                                  | SY   | 0.036   | 5.92     | 3.71  | 9.63   |
| Average .....                                  | SY   | 0.040   | 7.71     | 4.09  | 11.80  |
| Maximum .....                                  | SY   | 0.044   | 11.50    | 4.54  | 16.04  |
| Sponge rubber cushion                          |      |         |          |       |        |
| Minimum .....                                  | SY   | 0.036   | 5.61     | 3.71  | 9.32   |
| Average .....                                  | SY   | 0.040   | 7.47     | 4.09  | 11.56  |
| Maximum .....                                  | SY   | 0.044   | 10.50    | 4.54  | 15.04  |
| Urethane cushion, 3/8" thick                   |      |         |          |       |        |
| Minimum .....                                  | SY   | 0.036   | 5.61     | 3.71  | 9.32   |
| Average .....                                  | SY   | 0.040   | 6.54     | 4.09  | 10.63  |
| Maximum .....                                  | SY   | 0.044   | 8.53     | 4.54  | 13.07  |
| <b>09680.02 CARPET</b>                         |      |         |          |       |        |
| CARPET   |      |         |          |       |        |
| Carpet, acrylic                                |      |         |          |       |        |
| 24 oz., light traffic .....                    | SY   | 0.089   | 19.25    | 9.08  | 28.33  |
| 28 oz., medium traffic .....                   | SY   | 0.089   | 23.00    | 9.08  | 32.08  |
| Residential                                    |      |         |          |       |        |
| Nylon  |      |         |          |       |        |
| 15 oz., light traffic .....                    | SY   | 0.089   | 26.75    | 9.08  | 35.83  |
| 28 oz., medium traffic .....                   | SY   | 0.089   | 34.75    | 9.08  | 43.83  |
| Commercial                                     |      |         |          |       |        |
| Nylon  |      |         |          |       |        |
| 28 oz., medium traffic .....                   | SY   | 0.089   | 33.25    | 9.08  | 42.33  |
| 35 oz., heavy traffic .....                    | SY   | 0.089   | 40.50    | 9.08  | 49.58  |
| Wool   |      |         |          |       |        |
| 30 oz., medium traffic .....                   | SY   | 0.089   | 82.00    | 9.08  | 91.08  |
| 36 oz., medium traffic .....                   | SY   | 0.089   | 87.00    | 9.08  | 96.08  |
| 42 oz., heavy traffic .....                    | SY   | 0.089   | 120.00   | 9.08  | 129.08 |
| Carpet tile                                    |      |         |          |       |        |
| Foam backed                                    |      |         |          |       |        |
| Minimum .....                                  | SF   | 0.016   | 4.43     | 1.63  | 6.06   |
| Average .....                                  | SF   | 0.018   | 5.12     | 1.81  | 6.93   |
| Maximum .....                                  | SF   | 0.020   | 8.12     | 2.04  | 10.16  |
| Tufted loop or shag                            |      |         |          |       |        |
| Minimum .....                                  | SF   | 0.016   | 4.80     | 1.63  | 6.43   |
| Average .....                                  | SF   | 0.018   | 5.78     | 1.81  | 7.59   |
| Maximum .....                                  | SF   | 0.020   | 9.31     | 2.04  | 11.35  |
| Clean and vacuum carpet                        |      |         |          |       |        |
| Minimum .....                                  | SY   | 0.004   | 0.39     | 0.32  | 0.71   |
| Average .....                                  | SY   | 0.005   | 0.60     | 0.54  | 1.14   |
| Maximum .....                                  | SY   | 0.008   | 0.83     | 0.81  | 1.64   |
| <b>09720.01 WALL COVERING</b>                  |      |         |          |       |        |
| Vinyl wall covering                            |      |         |          |       |        |
| Medium duty .....                              | SF   | 0.011   | 1.18     | 0.97  | 2.15   |
| Heavy duty .....                               | SF   | 0.013   | 2.43     | 1.13  | 3.56   |
| Over pipes and irregular shapes                |      |         |          |       |        |
| Lightweight, 13 oz. ....                       | SF   | 0.016   | 2.04     | 1.36  | 3.40   |
| Medium weight, 25 oz. ....                     | SF   | 0.018   | 2.43     | 1.51  | 3.94   |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09720.01 WALL COVERING (Cont.)</b>              |             |                |                 |              |              |
| Over pipes and irregular shapes                    |             |                |                 |              |              |
| Heavyweight, 34 oz.                                | SF          | 0.020          | 2.97            | 1.70         | 4.67         |
| Cork wall covering                                 |             |                |                 |              |              |
| 1' x 1' squares                                    |             |                |                 |              |              |
| 1/4" thick   | SF          | 0.020          | 6.09            | 1.70         | 7.79         |
| 1/2" thick   | SF          | 0.020          | 7.74            | 1.70         | 9.44         |
| 3/4" thick   | SF          | 0.020          | 8.72            | 1.70         | 10.42        |
| Wall fabrics                                       |             |                |                 |              |              |
| Natural fabrics, grass cloths                      |             |                |                 |              |              |
| Minimum  | SF          | 0.012          | 1.77            | 1.05         | 2.82         |
| Average  | SF          | 0.013          | 1.97            | 1.13         | 3.10         |
| Maximum  | SF          | 0.016          | 6.60            | 1.36         | 7.96         |
| Flexible gypsum coated wall fabric, fire resistant | SF          | 0.008          | 1.99            | 0.68         | 2.67         |
| Vinyl corner guards                                |             |                |                 |              |              |
| 3/4" x 3/4" x 8'                                   | EA          | 0.100          | 9.35            | 8.53         | 17.88        |
| 2-3/4" x 2-3/4" x 4'                               | EA          | 0.100          | 5.52            | 8.53         | 14.05        |

## **09910.01 PAINTING PREPARATION**

### PAINTING PREPARATION

|                         |    |       |       |       |       |
|-------------------------|----|-------|-------|-------|-------|
| Dropcloths              |    |       |       |       |       |
| Minimum                 | SF | 0.001 | 0.17  | 0.04  | 0.21  |
| Average                 | SF | 0.001 | 0.19  | 0.05  | 0.24  |
| Maximum                 | SF | 0.001 | 0.39  | 0.07  | 0.46  |
| Masking                 |    |       |       |       |       |
| Paper and tape          |    |       |       |       |       |
| Minimum                 | LF | 0.008 | 0.04  | 0.68  | 0.72  |
| Average                 | LF | 0.010 | 0.07  | 0.85  | 0.92  |
| Maximum                 | LF | 0.013 | 0.08  | 1.13  | 1.21  |
| Doors                   |    |       |       |       |       |
| Minimum                 | EA | 0.100 | 0.05  | 8.53  | 8.58  |
| Average                 | EA | 0.133 | 0.07  | 11.25 | 11.32 |
| Maximum                 | EA | 0.178 | 0.08  | 15.25 | 15.33 |
| Windows                 |    |       |       |       |       |
| Minimum                 | EA | 0.100 | 0.05  | 8.53  | 8.58  |
| Average                 | EA | 0.133 | 0.07  | 11.25 | 11.32 |
| Maximum                 | EA | 0.178 | 0.08  | 15.25 | 15.33 |
| Sanding                 |    |       |       |       |       |
| Walls and flat surfaces |    |       |       |       |       |
| Minimum                 | SF | 0.005 | 0.45  | 0.45  | 0.45  |
| Average                 | SF | 0.007 | 0.56  | 0.56  | 0.56  |
| Maximum                 | SF | 0.008 | 0.68  | 0.68  | 0.68  |
| Doors and windows       |    |       |       |       |       |
| Minimum                 | EA | 0.133 | 11.25 | 11.25 | 11.25 |
| Average                 | EA | 0.200 | 17.00 | 17.00 | 17.00 |
| Maximum                 | EA | 0.267 | 22.75 | 22.75 | 22.75 |
| Trim                    |    |       |       |       |       |
| Minimum                 | LF | 0.010 | 0.85  | 0.85  | 0.85  |
| Average                 | LF | 0.013 | 1.13  | 1.13  | 1.13  |
| Maximum                 | LF | 0.018 | 1.51  | 1.51  | 1.51  |
| Puttying                |    |       |       |       |       |
| Minimum                 | SF | 0.012 | 0.02  | 1.05  | 1.07  |
| Average                 | SF | 0.016 | 0.03  | 1.36  | 1.39  |
| Maximum                 | SF | 0.020 | 0.05  | 1.70  | 1.75  |

## **09910.09 PAINT**

### PAINT

#### Paint, enamel

|                        |     |       |
|------------------------|-----|-------|
| 600 sf per gal.        | GAL | 58.00 |
| 550 sf per gal.        | GAL | 54.00 |
| 500 sf per gal.        | GAL | 38.25 |
| 450 sf per gal.        | GAL | 35.75 |
| 350 sf per gal.        | GAL | 34.50 |
| Filler, 60 sf per gal. | GAL | 41.00 |
| Latex, 400 sf per gal. | GAL | 38.25 |

## DIVISION 09 FINISHES

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>09910.09 PAINT (Cont.)</b>           |             |                |                 |              |              |
| Paint                                   |             |                |                 |              |              |
| Aluminum                                |             |                |                 |              |              |
| 400 sf per gal.                         | GAL         |                |                 |              | 51.00        |
| 500 sf per gal.                         | GAL         |                |                 |              | 82.00        |
| Red lead, 350 sf per gal.               | GAL         |                |                 |              | 72.00        |
| Primer                                  |             |                |                 |              |              |
| 400 sf per gal.                         | GAL         |                |                 |              | 34.25        |
| 300 sf per gal.                         | GAL         |                |                 |              | 34.50        |
| Latex base, interior, white             | GAL         |                |                 |              | 38.25        |
| Sealer and varnish                      |             |                |                 |              |              |
| 400 sf per gal.                         | GAL         |                |                 |              | 35.75        |
| 425 sf per gal.                         | GAL         |                |                 |              | 51.00        |
| 600 sf per gal.                         | GAL         |                |                 |              | 67.00        |
| <b>09911.30 EXT. PAINTING, SITEWORK</b> |             |                |                 |              |              |
| EXT. PAINTING, SITEWORK                 |             |                |                 |              |              |
| Concrete Block                          |             |                |                 |              |              |
| Roller                                  |             |                |                 |              |              |
| First Coat                              |             |                |                 |              |              |
| Minimum                                 | SF          | 0.004          | 0.21            | 0.34         | 0.55         |
| Average                                 | SF          | 0.005          | 0.22            | 0.45         | 0.67         |
| Maximum                                 | SF          | 0.008          | 0.23            | 0.68         | 0.91         |
| Second Coat                             |             |                |                 |              |              |
| Minimum                                 | SF          | 0.003          | 0.21            | 0.28         | 0.49         |
| Average                                 | SF          | 0.004          | 0.22            | 0.37         | 0.59         |
| Maximum                                 | SF          | 0.007          | 0.23            | 0.56         | 0.79         |
| Spray                                   |             |                |                 |              |              |
| First Coat                              |             |                |                 |              |              |
| Minimum                                 | SF          | 0.002          | 0.16            | 0.18         | 0.34         |
| Average                                 | SF          | 0.003          | 0.18            | 0.22         | 0.40         |
| Maximum                                 | SF          | 0.003          | 0.19            | 0.26         | 0.45         |
| Second Coat                             |             |                |                 |              |              |
| Minimum                                 | SF          | 0.001          | 0.16            | 0.12         | 0.28         |
| Average                                 | SF          | 0.002          | 0.18            | 0.15         | 0.33         |
| Maximum                                 | SF          | 0.003          | 0.19            | 0.21         | 0.40         |
| Fences, Chain Link                      |             |                |                 |              |              |
| Roller                                  |             |                |                 |              |              |
| First Coat                              |             |                |                 |              |              |
| Minimum                                 | SF          | 0.006          | 0.14            | 0.48         | 0.62         |
| Average                                 | SF          | 0.007          | 0.15            | 0.56         | 0.71         |
| Maximum                                 | SF          | 0.008          | 0.16            | 0.65         | 0.81         |
| Second Coat                             |             |                |                 |              |              |
| Minimum                                 | SF          | 0.003          | 0.14            | 0.28         | 0.42         |
| Average                                 | SF          | 0.004          | 0.15            | 0.34         | 0.49         |
| Maximum                                 | SF          | 0.005          | 0.16            | 0.42         | 0.58         |
| Spray                                   |             |                |                 |              |              |
| First Coat                              |             |                |                 |              |              |
| Minimum                                 | SF          | 0.003          | 0.11            | 0.21         | 0.32         |
| Average                                 | SF          | 0.003          | 0.12            | 0.24         | 0.36         |
| Maximum                                 | SF          | 0.003          | 0.14            | 0.28         | 0.42         |
| Second Coat                             |             |                |                 |              |              |
| Minimum                                 | SF          | 0.002          | 0.11            | 0.16         | 0.27         |
| Average                                 | SF          | 0.002          | 0.12            | 0.18         | 0.30         |
| Maximum                                 | SF          | 0.003          | 0.14            | 0.21         | 0.35         |
| Fences, Wood or Masonry                 |             |                |                 |              |              |
| Brush                                   |             |                |                 |              |              |
| First Coat                              |             |                |                 |              |              |
| Minimum                                 | SF          | 0.008          | 0.21            | 0.71         | 0.92         |
| Average                                 | SF          | 0.010          | 0.22            | 0.85         | 1.07         |
| Maximum                                 | SF          | 0.013          | 0.23            | 1.13         | 1.36         |
| Second Coat                             |             |                |                 |              |              |
| Minimum                                 | SF          | 0.005          | 0.21            | 0.42         | 0.63         |
| Average                                 | SF          | 0.006          | 0.22            | 0.52         | 0.74         |
| Maximum                                 | SF          | 0.008          | 0.23            | 0.68         | 0.91         |

## DIVISION 09 FINISHES

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>09911.30 EXT. PAINTING, SITEWORK (Cont.)</b> |             |                |                 |              |              |
| Fences, Wood or Masonry                         |             |                |                 |              |              |
| Roller  |             |                |                 |              |              |
| First Coat                                      |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.004          | 0.21            | 0.37         | 0.58         |
| Average .....                                   | SF          | 0.005          | 0.22            | 0.45         | 0.67         |
| Maximum .....                                   | SF          | 0.006          | 0.23            | 0.52         | 0.75         |
| Second Coat                                     |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.003          | 0.21            | 0.26         | 0.47         |
| Average .....                                   | SF          | 0.004          | 0.22            | 0.32         | 0.54         |
| Maximum .....                                   | SF          | 0.005          | 0.23            | 0.42         | 0.65         |
| Spray   |             |                |                 |              |              |
| First Coat                                      |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.003          | 0.16            | 0.24         | 0.40         |
| Average .....                                   | SF          | 0.004          | 0.18            | 0.31         | 0.49         |
| Maximum .....                                   | SF          | 0.005          | 0.19            | 0.42         | 0.61         |
| Second Coat                                     |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.002          | 0.16            | 0.17         | 0.33         |
| Average .....                                   | SF          | 0.003          | 0.18            | 0.21         | 0.39         |
| Maximum .....                                   | SF          | 0.003          | 0.19            | 0.28         | 0.47         |
| <b>09911.31 EXT. PAINTING, BUILDINGS</b>        |             |                |                 |              |              |
| EXT. PAINTING, BUILDINGS                        |             |                |                 |              |              |
| Decks, Wood, Stained                            |             |                |                 |              |              |
| Brush   |             |                |                 |              |              |
| First Coat                                      |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.004          | 0.16            | 0.34         | 0.50         |
| Average .....                                   | SF          | 0.004          | 0.18            | 0.37         | 0.55         |
| Maximum .....                                   | SF          | 0.005          | 0.19            | 0.42         | 0.61         |
| Second Coat                                     |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.003          | 0.16            | 0.24         | 0.40         |
| Average .....                                   | SF          | 0.003          | 0.18            | 0.26         | 0.44         |
| Maximum .....                                   | SF          | 0.003          | 0.19            | 0.28         | 0.47         |
| Roller  |             |                |                 |              |              |
| First Coat                                      |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.003          | 0.16            | 0.24         | 0.40         |
| Average .....                                   | SF          | 0.003          | 0.18            | 0.26         | 0.44         |
| Maximum .....                                   | SF          | 0.003          | 0.19            | 0.28         | 0.47         |
| Second Coat                                     |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.003          | 0.16            | 0.21         | 0.37         |
| Average .....                                   | SF          | 0.003          | 0.18            | 0.22         | 0.40         |
| Maximum .....                                   | SF          | 0.003          | 0.19            | 0.26         | 0.45         |
| Spray   |             |                |                 |              |              |
| First Coat                                      |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.003          | 0.14            | 0.21         | 0.35         |
| Average .....                                   | SF          | 0.003          | 0.15            | 0.22         | 0.37         |
| Maximum .....                                   | SF          | 0.003          | 0.16            | 0.26         | 0.42         |
| Second Coat                                     |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.002          | 0.14            | 0.18         | 0.32         |
| Average .....                                   | SF          | 0.002          | 0.15            | 0.20         | 0.35         |
| Maximum .....                                   | SF          | 0.003          | 0.16            | 0.22         | 0.38         |
| Doors, Wood                                     |             |                |                 |              |              |
| Brush   |             |                |                 |              |              |
| First Coat                                      |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.012          | 0.16            | 1.05         | 1.21         |
| Average .....                                   | SF          | 0.016          | 0.18            | 1.36         | 1.54         |
| Maximum .....                                   | SF          | 0.020          | 0.19            | 1.70         | 1.89         |
| Second Coat                                     |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.010          | 0.16            | 0.85         | 1.01         |
| Average .....                                   | SF          | 0.011          | 0.18            | 0.97         | 1.15         |
| Maximum .....                                   | SF          | 0.013          | 0.19            | 1.13         | 1.32         |
| Roller  |             |                |                 |              |              |
| First Coat                                      |             |                |                 |              |              |
| Minimum .....                                   | SF          | 0.005          | 0.16            | 0.45         | 0.61         |
| Average .....                                   | SF          | 0.007          | 0.18            | 0.56         | 0.74         |
| Maximum .....                                   | SF          | 0.010          | 0.19            | 0.85         | 1.04         |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09911.31 EXT. PAINTING, BUILDINGS (Cont.)</b> |             |                |                 |              |              |
| Roller   |             |                |                 |              |              |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.004          | 0.16            | 0.34         | 0.50         |
| Average .....                                    | SF          | 0.004          | 0.18            | 0.37         | 0.55         |
| Maximum .....                                    | SF          | 0.007          | 0.19            | 0.56         | 0.75         |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.14            | 0.21         | 0.35         |
| Average .....                                    | SF          | 0.003          | 0.15            | 0.26         | 0.41         |
| Maximum .....                                    | SF          | 0.004          | 0.16            | 0.34         | 0.50         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.14            | 0.17         | 0.31         |
| Average .....                                    | SF          | 0.002          | 0.15            | 0.19         | 0.34         |
| Maximum .....                                    | SF          | 0.003          | 0.16            | 0.22         | 0.38         |
| Gutters and Downspouts                           |             |                |                 |              |              |
| Brush  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | LF          | 0.010          | 0.21            | 0.85         | 1.06         |
| Average .....                                    | LF          | 0.011          | 0.22            | 0.97         | 1.19         |
| Maximum .....                                    | LF          | 0.013          | 0.23            | 1.13         | 1.36         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | LF          | 0.007          | 0.21            | 0.56         | 0.77         |
| Average .....                                    | LF          | 0.008          | 0.22            | 0.68         | 0.90         |
| Maximum .....                                    | LF          | 0.010          | 0.23            | 0.85         | 1.08         |
| Siding, Wood                                     |             |                |                 |              |              |
| Roller   |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.14            | 0.24         | 0.38         |
| Average .....                                    | SF          | 0.003          | 0.15            | 0.28         | 0.43         |
| Maximum .....                                    | SF          | 0.004          | 0.16            | 0.31         | 0.47         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.14            | 0.28         | 0.42         |
| Average .....                                    | SF          | 0.004          | 0.15            | 0.31         | 0.46         |
| Maximum .....                                    | SF          | 0.004          | 0.16            | 0.34         | 0.50         |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.14            | 0.22         | 0.36         |
| Average .....                                    | SF          | 0.003          | 0.15            | 0.24         | 0.39         |
| Maximum .....                                    | SF          | 0.003          | 0.16            | 0.26         | 0.42         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.14            | 0.17         | 0.31         |
| Average .....                                    | SF          | 0.003          | 0.15            | 0.22         | 0.37         |
| Maximum .....                                    | SF          | 0.004          | 0.16            | 0.34         | 0.50         |
| Stucco   |             |                |                 |              |              |
| Roller   |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.004          | 0.21            | 0.31         | 0.52         |
| Average .....                                    | SF          | 0.004          | 0.22            | 0.35         | 0.57         |
| Maximum .....                                    | SF          | 0.005          | 0.23            | 0.42         | 0.65         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.21            | 0.25         | 0.46         |
| Average .....                                    | SF          | 0.003          | 0.22            | 0.29         | 0.51         |
| Maximum .....                                    | SF          | 0.004          | 0.23            | 0.34         | 0.57         |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.16            | 0.21         | 0.37         |
| Average .....                                    | SF          | 0.003          | 0.18            | 0.24         | 0.42         |
| Maximum .....                                    | SF          | 0.003          | 0.19            | 0.28         | 0.47         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.16            | 0.17         | 0.33         |
| Average .....                                    | SF          | 0.002          | 0.18            | 0.19         | 0.37         |
| Maximum .....                                    | SF          | 0.003          | 0.19            | 0.22         | 0.41         |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09911.31 EXT. PAINTING, BUILDINGS (Cont.)</b> |             |                |                 |              |              |
| Trim   |             |                |                 |              |              |
| Brush  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | LF          | 0.003          | 0.21            | 0.28         | 0.49         |
| Average .....                                    | LF          | 0.004          | 0.22            | 0.34         | 0.56         |
| Maximum .....                                    | LF          | 0.005          | 0.23            | 0.42         | 0.65         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | LF          | 0.003          | 0.21            | 0.21         | 0.42         |
| Average .....                                    | LF          | 0.003          | 0.22            | 0.28         | 0.50         |
| Maximum .....                                    | LF          | 0.005          | 0.23            | 0.42         | 0.65         |
| Walls  |             |                |                 |              |              |
| Roller   |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.16            | 0.24         | 0.40         |
| Average .....                                    | SF          | 0.003          | 0.18            | 0.25         | 0.43         |
| Maximum .....                                    | SF          | 0.003          | 0.19            | 0.27         | 0.46         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.16            | 0.21         | 0.37         |
| Average .....                                    | SF          | 0.003          | 0.18            | 0.22         | 0.40         |
| Maximum .....                                    | SF          | 0.003          | 0.19            | 0.26         | 0.45         |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.001          | 0.12            | 0.10         | 0.22         |
| Average .....                                    | SF          | 0.002          | 0.14            | 0.13         | 0.27         |
| Maximum .....                                    | SF          | 0.002          | 0.15            | 0.17         | 0.32         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.001          | 0.12            | 0.09         | 0.21         |
| Average .....                                    | SF          | 0.001          | 0.14            | 0.11         | 0.25         |
| Maximum .....                                    | SF          | 0.002          | 0.15            | 0.15         | 0.30         |
| Windows  |             |                |                 |              |              |
| Brush  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.013          | 0.14            | 1.13         | 1.27         |
| Average .....                                    | SF          | 0.016          | 0.15            | 1.36         | 1.51         |
| Maximum .....                                    | SF          | 0.020          | 0.16            | 1.70         | 1.86         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.011          | 0.14            | 0.97         | 1.11         |
| Average .....                                    | SF          | 0.013          | 0.15            | 1.13         | 1.28         |
| Maximum .....                                    | SF          | 0.016          | 0.16            | 1.36         | 1.52         |
| <b>09911.32 EXT. PAINTING, MISC.</b>             |             |                |                 |              |              |
| EXT. PAINTING, MISC.                             |             |                |                 |              |              |
| Shakes   |             |                |                 |              |              |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.15            | 0.28         | 0.43         |
| Average .....                                    | SF          | 0.004          | 0.16            | 0.31         | 0.47         |
| Maximum .....                                    | SF          | 0.004          | 0.18            | 0.34         | 0.52         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.15            | 0.26         | 0.41         |
| Average .....                                    | SF          | 0.003          | 0.16            | 0.28         | 0.44         |
| Maximum .....                                    | SF          | 0.004          | 0.18            | 0.31         | 0.49         |
| Shingles, Wood                                   |             |                |                 |              |              |
| Roller   |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.004          | 0.16            | 0.37         | 0.53         |
| Average .....                                    | SF          | 0.005          | 0.18            | 0.42         | 0.60         |
| Maximum .....                                    | SF          | 0.006          | 0.19            | 0.48         | 0.67         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.16            | 0.26         | 0.42         |
| Average .....                                    | SF          | 0.003          | 0.18            | 0.28         | 0.46         |
| Maximum .....                                    | SF          | 0.004          | 0.19            | 0.31         | 0.50         |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09911.32 EXT. PAINTING, MISC. (Cont.)</b> |             |                |                 |              |              |
| Shingles, Wood                               |             |                |                 |              |              |
| Spray  |             |                |                 |              |              |
| First Coat                                   |             |                |                 |              |              |
| Minimum .....                                | LF          | 0.003          | 0.14            | 0.26         | 0.40         |
| Average .....                                | LF          | 0.003          | 0.15            | 0.28         | 0.43         |
| Maximum .....                                | LF          | 0.004          | 0.16            | 0.31         | 0.47         |
| Second Coat                                  |             |                |                 |              |              |
| Minimum .....                                | LF          | 0.002          | 0.14            | 0.20         | 0.34         |
| Average .....                                | LF          | 0.003          | 0.15            | 0.21         | 0.36         |
| Maximum .....                                | LF          | 0.003          | 0.16            | 0.22         | 0.38         |
| Shutters and Louvers                         |             |                |                 |              |              |
| Brush  |             |                |                 |              |              |
| First Coat                                   |             |                |                 |              |              |
| Minimum .....                                | EA          | 0.160          | 0.21            | 13.75        | 13.96        |
| Average .....                                | EA          | 0.200          | 0.22            | 17.00        | 17.22        |
| Maximum .....                                | EA          | 0.267          | 0.23            | 22.75        | 22.98        |
| Second Coat                                  |             |                |                 |              |              |
| Minimum .....                                | EA          | 0.100          | 0.21            | 8.53         | 8.74         |
| Average .....                                | EA          | 0.123          | 0.22            | 10.50        | 10.72        |
| Maximum .....                                | EA          | 0.160          | 0.23            | 13.75        | 13.98        |
| Spray  |             |                |                 |              |              |
| First Coat                                   |             |                |                 |              |              |
| Minimum .....                                | EA          | 0.053          | 0.15            | 4.55         | 4.70         |
| Average .....                                | EA          | 0.064          | 0.16            | 5.46         | 5.62         |
| Maximum .....                                | EA          | 0.080          | 0.18            | 6.82         | 7.00         |
| Second Coat                                  |             |                |                 |              |              |
| Minimum .....                                | EA          | 0.040          | 0.15            | 3.41         | 3.56         |
| Average .....                                | EA          | 0.053          | 0.16            | 4.55         | 4.71         |
| Maximum .....                                | EA          | 0.064          | 0.18            | 5.46         | 5.64         |
| Stairs, metal                                |             |                |                 |              |              |
| Brush  |             |                |                 |              |              |
| First Coat                                   |             |                |                 |              |              |
| Minimum .....                                | SF          | 0.009          | 0.21            | 0.75         | 0.96         |
| Average .....                                | SF          | 0.010          | 0.22            | 0.85         | 1.07         |
| Maximum .....                                | SF          | 0.011          | 0.23            | 0.97         | 1.20         |
| Second Coat                                  |             |                |                 |              |              |
| Minimum .....                                | SF          | 0.005          | 0.21            | 0.42         | 0.63         |
| Average .....                                | SF          | 0.006          | 0.22            | 0.48         | 0.70         |
| Maximum .....                                | SF          | 0.007          | 0.23            | 0.56         | 0.79         |
| Spray  |             |                |                 |              |              |
| First Coat                                   |             |                |                 |              |              |
| Minimum .....                                | SF          | 0.004          | 0.15            | 0.37         | 0.52         |
| Average .....                                | SF          | 0.006          | 0.16            | 0.48         | 0.64         |
| Maximum .....                                | SF          | 0.006          | 0.18            | 0.52         | 0.70         |
| Second Coat                                  |             |                |                 |              |              |
| Minimum .....                                | SF          | 0.003          | 0.15            | 0.28         | 0.43         |
| Average .....                                | SF          | 0.004          | 0.16            | 0.34         | 0.50         |
| Maximum .....                                | SF          | 0.005          | 0.18            | 0.42         | 0.60         |
| <b>09912.33 INT. PAINTING, BUILDINGS</b>     |             |                |                 |              |              |
| INT. PAINTING, BUILDINGS                     |             |                |                 |              |              |
| Acoustical Ceiling                           |             |                |                 |              |              |
| Roller                                       |             |                |                 |              |              |
| First Coat                                   |             |                |                 |              |              |
| Minimum .....                                | SF          | 0.005          | 0.21            | 0.42         | 0.63         |
| Average .....                                | SF          | 0.007          | 0.22            | 0.56         | 0.78         |
| Maximum .....                                | SF          | 0.010          | 0.23            | 0.85         | 1.08         |
| Second Coat                                  |             |                |                 |              |              |
| Minimum .....                                | SF          | 0.004          | 0.21            | 0.34         | 0.55         |
| Average .....                                | SF          | 0.005          | 0.22            | 0.42         | 0.64         |
| Maximum .....                                | SF          | 0.007          | 0.23            | 0.56         | 0.79         |
| Spray  |             |                |                 |              |              |
| First Coat                                   |             |                |                 |              |              |
| Minimum .....                                | SF          | 0.002          | 0.16            | 0.18         | 0.34         |
| Average .....                                | SF          | 0.003          | 0.18            | 0.22         | 0.40         |

## DIVISION 09 FINISHES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>09912.33 INT. PAINTING, BUILDINGS (Cont.)</b> |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Maximum .....                                    | SF          | 0.003          | 0.19            | 0.28         | 0.47         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.16            | 0.15         | 0.31         |
| Average .....                                    | SF          | 0.002          | 0.18            | 0.17         | 0.35         |
| Maximum .....                                    | SF          | 0.002          | 0.19            | 0.19         | 0.38         |
| Cabinets and Casework                            |             |                |                 |              |              |
| Brush  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.008          | 0.21            | 0.68         | 0.89         |
| Average .....                                    | SF          | 0.009          | 0.22            | 0.75         | 0.97         |
| Maximum .....                                    | SF          | 0.010          | 0.23            | 0.85         | 1.08         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.007          | 0.21            | 0.56         | 0.77         |
| Average .....                                    | SF          | 0.007          | 0.22            | 0.62         | 0.84         |
| Maximum .....                                    | SF          | 0.008          | 0.23            | 0.68         | 0.91         |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.004          | 0.16            | 0.34         | 0.50         |
| Average .....                                    | SF          | 0.005          | 0.18            | 0.40         | 0.58         |
| Maximum .....                                    | SF          | 0.006          | 0.19            | 0.48         | 0.67         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.16            | 0.27         | 0.43         |
| Average .....                                    | SF          | 0.003          | 0.18            | 0.29         | 0.47         |
| Maximum .....                                    | SF          | 0.004          | 0.19            | 0.37         | 0.56         |
| Ceilings   |             |                |                 |              |              |
| Roller   |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.16            | 0.28         | 0.44         |
| Average .....                                    | SF          | 0.004          | 0.18            | 0.31         | 0.49         |
| Maximum .....                                    | SF          | 0.004          | 0.19            | 0.34         | 0.53         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.003          | 0.16            | 0.22         | 0.38         |
| Average .....                                    | SF          | 0.003          | 0.18            | 0.26         | 0.44         |
| Maximum .....                                    | SF          | 0.003          | 0.19            | 0.28         | 0.47         |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.14            | 0.17         | 0.31         |
| Average .....                                    | SF          | 0.002          | 0.15            | 0.18         | 0.33         |
| Maximum .....                                    | SF          | 0.003          | 0.16            | 0.21         | 0.37         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.14            | 0.13         | 0.27         |
| Average .....                                    | SF          | 0.002          | 0.15            | 0.14         | 0.29         |
| Maximum .....                                    | SF          | 0.002          | 0.16            | 0.17         | 0.33         |
| Doors, Wood                                      |             |                |                 |              |              |
| Brush  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.011          | 0.21            | 0.97         | 1.18         |
| Average .....                                    | SF          | 0.015          | 0.22            | 1.24         | 1.46         |
| Maximum .....                                    | SF          | 0.018          | 0.23            | 1.51         | 1.74         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.009          | 0.15            | 0.75         | 0.90         |
| Average .....                                    | SF          | 0.010          | 0.16            | 0.85         | 1.01         |
| Maximum .....                                    | SF          | 0.011          | 0.18            | 0.97         | 1.15         |
| Spray  |             |                |                 |              |              |
| First Coat                                       |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.15            | 0.20         | 0.35         |
| Average .....                                    | SF          | 0.003          | 0.16            | 0.24         | 0.40         |
| Maximum .....                                    | SF          | 0.004          | 0.18            | 0.31         | 0.49         |
| Second Coat                                      |             |                |                 |              |              |
| Minimum .....                                    | SF          | 0.002          | 0.15            | 0.16         | 0.31         |
| Average .....                                    | SF          | 0.002          | 0.16            | 0.18         | 0.34         |
| Maximum .....                                    | SF          | 0.003          | 0.18            | 0.21         | 0.39         |

## DIVISION 09 FINISHES

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>09912.33 INT. PAINTING, BUILDINGS (Cont.)</u></b> |             |                |                 |              |              |
| Trim  |             |                |                 |              |              |
| Brush   |             |                |                 |              |              |
| First Coat  |             |                |                 |              |              |
| Minimum .....   | LF          | 0.003          | 0.21            | 0.27         | 0.48         |
| Average .....   | LF          | 0.004          | 0.22            | 0.31         | 0.53         |
| Maximum .....   | LF          | 0.004          | 0.23            | 0.37         | 0.60         |
| Second Coat   |             |                |                 |              |              |
| Minimum .....   | LF          | 0.002          | 0.21            | 0.20         | 0.41         |
| Average .....   | LF          | 0.003          | 0.22            | 0.26         | 0.48         |
| Maximum .....   | LF          | 0.004          | 0.23            | 0.37         | 0.60         |
| Walls   |             |                |                 |              |              |
| Roller  |             |                |                 |              |              |
| First Coat  |             |                |                 |              |              |
| Minimum .....   | SF          | 0.003          | 0.16            | 0.24         | 0.40         |
| Average .....   | SF          | 0.003          | 0.18            | 0.25         | 0.43         |
| Maximum .....   | SF          | 0.003          | 0.19            | 0.28         | 0.47         |
| Second Coat   |             |                |                 |              |              |
| Minimum .....   | SF          | 0.003          | 0.16            | 0.21         | 0.37         |
| Average .....   | SF          | 0.003          | 0.18            | 0.22         | 0.40         |
| Maximum .....   | SF          | 0.003          | 0.19            | 0.26         | 0.45         |
| Spray   |             |                |                 |              |              |
| First Coat  |             |                |                 |              |              |
| Minimum .....   | SF          | 0.001          | 0.14            | 0.10         | 0.24         |
| Average .....   | SF          | 0.002          | 0.15            | 0.13         | 0.28         |
| Maximum .....   | SF          | 0.002          | 0.16            | 0.17         | 0.33         |
| Second Coat   |             |                |                 |              |              |
| Minimum .....   | SF          | 0.001          | 0.14            | 0.09         | 0.23         |
| Average .....   | SF          | 0.001          | 0.15            | 0.11         | 0.26         |
| Maximum .....   | SF          | 0.002          | 0.16            | 0.15         | 0.31         |

## DIVISION 10 SPECIALTIES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>10211.60 SHOWER STALLS</b>                          |             |                |                 |              |              |
| SHOWER STALLS  |             |                |                 |              |              |
| Shower receptors                                       |             |                |                 |              |              |
| Precast, terrazzo                                      |             |                |                 |              |              |
| 32" x 32" .....  | EA          | 0.667          | 850.00          | 75.00        | 925.00       |
| 32" x 48" .....  | EA          | 0.800          | 900.00          | 90.00        | 990.00       |
| Concrete   |             |                |                 |              |              |
| 32" x 32" .....  | EA          | 0.667          | 350.00          | 75.00        | 425.00       |
| 48" x 48" .....  | EA          | 0.889          | 390.00          | 100.00       | 490.00       |
| Shower door, trim and hardware                         |             |                |                 |              |              |
| Economy, 24" wide, chrome, tempered glass .....        | EA          | 0.800          | 380.00          | 90.00        | 470.00       |
| Porcelain enameled steel, flush .....                  | EA          | 0.800          | 700.00          | 90.00        | 790.00       |
| Baked enameled steel, flush .....                      | EA          | 0.800          | 410.00          | 90.00        | 500.00       |
| Aluminum, tempered glass, 48" wide, sliding .....      | EA          | 1.000          | 860.00          | 110.00       | 970.00       |
| Folding .....  | EA          | 1.000          | 830.00          | 110.00       | 940.00       |
| Aluminum and tempered glass, molded plastic            |             |                |                 |              |              |
| Complete with receptor and door                        |             |                |                 |              |              |
| 32" x 32" .....  | EA          | 2.000          | 1,050.00        | 220.00       | 1,270.00     |
| 36" x 36" .....  | EA          | 2.000          | 1,180.00        | 220.00       | 1,400.00     |
| 40" x 40" .....  | EA          | 2.286          | 1,230.00        | 260.00       | 1,490.00     |
| <b>10281.60 BATH ACCESSORIES</b>                       |             |                |                 |              |              |
| BATH ACCESSORIES                                       |             |                |                 |              |              |
| Grab bar, 1-1/2" dia., stainless steel, wall mounted   |             |                |                 |              |              |
| 24" long .....   | EA          | 0.400          | 91.00           | 41.00        | 132.00       |
| 36" long .....   | EA          | 0.421          | 100.00          | 43.00        | 143.00       |
| 1" dia., stainless steel                               |             |                |                 |              |              |
| 12" long .....   | EA          | 0.348          | 57.00           | 35.50        | 92.50        |
| 24" long .....   | EA          | 0.400          | 77.00           | 41.00        | 118.00       |
| 36" long .....   | EA          | 0.444          | 100.00          | 45.50        | 145.50       |
| Medicine cabinet, 16 x 22, baked enamel, lighted ..... | EA          | 0.320          | 260.00          | 32.75        | 292.75       |
| With mirror, lighted .....                             | EA          | 0.533          | 380.00          | 55.00        | 435.00       |
| Mirror, 1/4" plate glass, up to 10 sf .....            | SF          | 0.080          | 20.00           | 8.18         | 28.18        |
| Mirror, stainless steel frame                          |             |                |                 |              |              |
| 18"x24" .....  | EA          | 0.267          | 150.00          | 27.25        | 177.25       |
| 18"x32" .....  | EA          | 0.320          | 180.00          | 32.75        | 212.75       |
| 24"x30" .....  | EA          | 0.400          | 190.00          | 41.00        | 231.00       |
| 24"x60" .....  | EA          | 0.800          | 700.00          | 82.00        | 782.00       |
| Soap dish, stainless steel, wall mounted .....         | EA          | 0.533          | 260.00          | 55.00        | 315.00       |
| Soap dispenser, commercial .....                       |             |                |                 |              | 0.00         |
| Minimum .....  | EA          | 0.800          | 55.00           | 82.00        | 137.00       |
| Average .....  | EA          | 0.800          | 83.00           | 82.00        | 165.00       |
| Maximum .....  | EA          | 0.800          | 160.00          | 82.00        | 242.00       |
| Toilet tissue dispenser, stainless, wall mounted       |             |                |                 |              |              |
| Single roll .....                                      | EA          | 0.200          | 130.00          | 20.50        | 150.50       |
| Towel bar, stainless steel                             |             |                |                 |              |              |
| 18" long .....   | EA          | 0.320          | 160.00          | 32.75        | 192.75       |
| 24" long .....   | EA          | 0.364          | 220.00          | 37.25        | 257.25       |
| 30" long .....   | EA          | 0.400          | 220.00          | 41.00        | 261.00       |
| 36" long .....   | EA          | 0.444          | 240.00          | 45.50        | 285.50       |
| Toothbrush and tumbler holder .....                    | EA          | 0.267          | 99.00           | 27.25        | 126.25       |
| <b>10750.01 FLAGPOLES</b>                              |             |                |                 |              |              |
| FLAGPOLES  |             |                |                 |              |              |
| Installed in concrete base                             |             |                |                 |              |              |
| Fiberglass   |             |                |                 |              |              |
| 25' high .....   | EA          | 5.333          | 2,210.00        | 550.00       | 2,760.00     |
| 50' high .....   | EA          | 13.333         | 5,840.00        | 1,360.00     | 7,200.00     |
| Aluminum   |             |                |                 |              |              |
| 25' high .....   | EA          | 5.333          | 2,140.00        | 550.00       | 2,690.00     |
| 50' high .....   | EA          | 13.333         | 4,240.00        | 1,360.00     | 5,600.00     |
| Bonderized steel                                       |             |                |                 |              |              |
| 25' high .....   | EA          | 6.154          | 2,400.00        | 630.00       | 3,030.00     |
| 50' high .....   | EA          | 16.000         | 4,800.00        | 1,640.00     | 6,440.00     |
| Freestanding tapered, fiberglass                       |             |                |                 |              |              |
| 30' high .....   | EA          | 5.714          | 2,630.00        | 580.00       | 3,210.00     |
| 40' high .....   | EA          | 7.273          | 3,410.00        | 740.00       | 4,150.00     |

## DIVISION 10 SPECIALTIES

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|                                     | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b><u>10810.01 PEST CONTROL</u></b> |             |                |                 |              |              |
| PEST CONTROL                        |             |                |                 |              |              |
| Termite control                     |             |                |                 |              |              |
| Under slab spraying                 |             |                |                 |              |              |
| Minimum .....                       | SF .....    | 0.002 .....    | 1.31 .....      | 0.16 .....   | 1.47         |
| Average .....                       | SF .....    | 0.004 .....    | 1.31 .....      | 0.32 .....   | 1.63         |
| Maximum .....                       | SF .....    | 0.008 .....    | 1.87 .....      | 0.64 .....   | 2.51         |

## DIVISION 11 EQUIPMENT

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>11160.01 VAULTS</b>                          |             |                |                 |              |              |
| VAULTS  |             |                |                 |              |              |
| Floor safes                                     |             |                |                 |              |              |
| 1.0 cf .....                                    | EA          | 0.667          | 1,300.00        | 68.00        | 1,368.00     |
| 1.3 cf .....                                    | EA          | 1.000          | 1,440.00        | 100.00       | 1,540.00     |
| <b>11240.01 MAINTENANCE EQUIPMENT</b>           |             |                |                 |              |              |
| MAINTENANCE EQUIPMENT                           |             |                |                 |              |              |
| Vacuum cleaning system                          |             |                |                 |              |              |
| 3 valves  |             |                |                 |              |              |
| 1.5 hp .....                                    | EA          | 8.889          | 1,180.00        | 910.00       | 2,090.00     |
| 2.5 hp .....                                    | EA          | 11.429         | 1,420.00        | 1,170.00     | 2,590.00     |
| 5 valves .....                                  | EA          | 16.000         | 2,220.00        | 1,640.00     | 3,860.00     |
| 7 valves .....                                  | EA          | 20.000         | 2,950.00        | 2,050.00     | 5,000.00     |
| <b>11310.01 RESIDENTIAL EQUIPMENT</b>           |             |                |                 |              |              |
| RESIDENTIAL EQUIPMENT                           |             |                |                 |              |              |
| Clothes Dryer                                   |             |                |                 |              |              |
| Minimum .....                                   | EA          | 2.667          | 280.00          | 210.00       | 490.00       |
| Maximum .....                                   | EA          | 2.667          | 830.00          | 210.00       | 1,040.00     |
| Clothes Washer                                  |             |                |                 |              |              |
| Minimum .....                                   | EA          | 2.667          | 600.00          | 210.00       | 810.00       |
| Maximum .....                                   | EA          | 2.667          | 1,040.00        | 210.00       | 1,250.00     |
| Compactor, 4 to 1 compaction .....              | EA          | 2.000          | 2,350.00        | 210.00       | 2,560.00     |
| Dishwasher, built-in                            |             |                |                 |              |              |
| 2 cycles .....                                  | EA          | 4.000          | 1,160.00        | 420.00       | 1,580.00     |
| 4 or more cycles .....                          | EA          | 4.000          | 3,120.00        | 420.00       | 3,540.00     |
| Disposal  |             |                |                 |              |              |
| Garbage disposer .....                          | EA          | 2.667          | 320.00          | 280.00       | 600.00       |
| Heaters, electric, built-in                     |             |                |                 |              |              |
| Ceiling type .....                              | EA          | 2.667          | 660.00          | 280.00       | 940.00       |
| Wall type                                       |             |                |                 |              |              |
| Minimum .....                                   | EA          | 2.000          | 330.00          | 210.00       | 540.00       |
| Maximum .....                                   | EA          | 2.667          | 1,150.00        | 280.00       | 1,430.00     |
| Hood for range, 2-speed, vented                 |             |                |                 |              |              |
| 30" wide .....                                  | EA          | 2.667          | 910.00          | 280.00       | 1,190.00     |
| 42" wide .....                                  | EA          | 2.667          | 1,680.00        | 280.00       | 1,960.00     |
| Ice maker, automatic                            |             |                |                 |              |              |
| 30 lb per day .....                             | EA          | 1.143          | 3,080.00        | 120.00       | 3,200.00     |
| 50 lb per day .....                             | EA          | 4.000          | 3,900.00        | 420.00       | 4,320.00     |
| Folding access stairs, disappearing metal stair |             |                |                 |              |              |
| 8' long .....                                   | EA          | 1.143          | 1,610.00        | 120.00       | 1,730.00     |
| 11' long .....                                  | EA          | 1.143          | 1,680.00        | 120.00       | 1,800.00     |
| 12' long .....                                  | EA          | 1.143          | 1,790.00        | 120.00       | 1,910.00     |
| Wood frame, wood stair                          |             |                |                 |              |              |
| 22" x 54" x 8'9" long .....                     | EA          | 0.800          | 310.00          | 83.00        | 393.00       |
| 25" x 54" x 10' long .....                      | EA          | 0.800          | 380.00          | 83.00        | 463.00       |
| Microwave, built-in                             |             |                |                 |              |              |
| Minimum .....                                   | EA          | 2.000          | 690.00          | 210.00       | 900.00       |
| Maximum .....                                   | EA          | 2.667          | 5,390.00        | 280.00       | 5,670.00     |
| Ranges, electric                                |             |                |                 |              |              |
| Built-in, 30", 1 oven .....                     | EA          | 2.667          | 3,370.00        | 280.00       | 3,650.00     |
| 2 oven .....                                    | EA          | 2.667          | 3,900.00        | 280.00       | 4,180.00     |
| Countertop, 4 burner, standard .....            | EA          | 2.000          | 1,950.00        | 210.00       | 2,160.00     |
| With grill .....                                | EA          | 2.000          | 4,870.00        | 210.00       | 5,080.00     |
| Freestanding, 21", 1 oven .....                 | EA          | 2.667          | 1,760.00        | 280.00       | 2,040.00     |
| 30", 1 oven .....                               | EA          | 1.600          | 3,410.00        | 170.00       | 3,580.00     |
| 2 oven .....                                    | EA          | 1.600          | 5,560.00        | 170.00       | 5,730.00     |
| Refrigerator/freezer, free-standing             |             |                |                 |              |              |
| Minimum .....                                   | EA          | 2.000          | 830.00          | 160.00       | 990.00       |
| Maximum .....                                   | EA          | 2.667          | 4,840.00        | 210.00       | 5,050.00     |
| Water softener                                  |             |                |                 |              |              |
| 30 grains per gallon .....                      | EA          | 2.667          | 1,910.00        | 280.00       | 2,190.00     |
| 70 grains per gallon .....                      | EA          | 4.000          | 2,400.00        | 420.00       | 2,820.00     |

## DIVISION 11 EQUIPMENT

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|                                     | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>11682.30 RECREATIONAL COURTS</b> |             |                |                 |              |              |
| RECREATIONAL COURTS                 |             |                |                 |              |              |
| Walls, galvanized steel             |             |                |                 |              |              |
| 8' high .....                       | LF          | 0.160          | 17.50           | 12.75        | 30.25        |
| 10' high .....                      | LF          | 0.178          | 20.75           | 14.25        | 35.00        |
| 12' high .....                      | LF          | 0.211          | 23.75           | 16.75        | 40.50        |
| Vinyl coated                        |             |                |                 |              |              |
| 8' high .....                       | LF          | 0.160          | 16.75           | 12.75        | 29.50        |
| 10' high .....                      | LF          | 0.178          | 20.50           | 14.25        | 34.75        |
| 12' high .....                      | LF          | 0.211          | 23.00           | 16.75        | 39.75        |
| Gates, galvanized steel             |             |                |                 |              |              |
| Single, 3' transom                  |             |                |                 |              |              |
| 3'x7' .....                         | EA          | 4.000          | 510.00          | 320.00       | 830.00       |
| 4'x7' .....                         | EA          | 4.571          | 540.00          | 370.00       | 910.00       |
| 5'x7' .....                         | EA          | 5.333          | 740.00          | 430.00       | 1,170.00     |
| 6'x7' .....                         | EA          | 6.400          | 800.00          | 510.00       | 1,310.00     |
| Vinyl coated                        |             |                |                 |              |              |
| Single, 3' transom                  |             |                |                 |              |              |
| 3'x7' .....                         | EA          | 4.000          | 990.00          | 320.00       | 1,310.00     |
| 4'x7' .....                         | EA          | 4.571          | 1,080.00        | 370.00       | 1,450.00     |
| 5'x7' .....                         | EA          | 5.333          | 1,080.00        | 430.00       | 1,510.00     |
| 6'x7' .....                         | EA          | 6.400          | 1,110.00        | 510.00       | 1,620.00     |

## DIVISION 12 FURNISHINGS

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>12210.01 BLINDS</b>                             |             |                |                 |              |              |
| BLINDS   |             |                |                 |              |              |
| Venetian blinds                                    |             |                |                 |              |              |
| 2" slats .....                                     | SF          | 0.020          | 48.25           | 2.04         | 50.29        |
| 1" slats .....                                     | SF          | 0.020          | 52.00           | 2.04         | 54.04        |
| <b>12210.02 SHADES</b>                             |             |                |                 |              |              |
| SHADES   |             |                |                 |              |              |
| Standard window shades, light filtering            |             |                |                 |              |              |
| Minimum .....                                      | SF          | 0.013          | 7.70            | 1.36         | 9.06         |
| Average .....                                      | SF          | 0.016          | 11.00           | 1.63         | 12.63        |
| Maximum .....                                      | SF          | 0.023          | 24.25           | 2.33         | 26.58        |
| <b>12220.01 WINDOW TREATMENT</b>                   |             |                |                 |              |              |
| WINDOW TREATMENT                                   |             |                |                 |              |              |
| Drapery tracks, wall or ceiling mounted            |             |                |                 |              |              |
| Basic traverse rod                                 |             |                |                 |              |              |
| 50 to 90" .....                                    | EA          | 0.400          | 64.00           | 41.00        | 105.00       |
| 84 to 156" .....                                   | EA          | 0.444          | 85.00           | 45.50        | 130.50       |
| 136 to 250" .....                                  | EA          | 0.444          | 120.00          | 45.50        | 165.50       |
| 165 to 312" .....                                  | EA          | 0.500          | 190.00          | 51.00        | 241.00       |
| Traverse rod with stationary curtain rod           |             |                |                 |              |              |
| 30 to 50" .....                                    | EA          | 0.400          | 96.00           | 41.00        | 137.00       |
| 50 to 90" .....                                    | EA          | 0.400          | 110.00          | 41.00        | 151.00       |
| 84 to 156" .....                                   | EA          | 0.444          | 150.00          | 45.50        | 195.50       |
| 136 to 250" .....                                  | EA          | 0.500          | 190.00          | 51.00        | 241.00       |
| Double traverse rod                                |             |                |                 |              |              |
| 30 to 50" .....                                    | EA          | 0.400          | 110.00          | 41.00        | 151.00       |
| 50 to 84" .....                                    | EA          | 0.400          | 140.00          | 41.00        | 181.00       |
| 84 to 156" .....                                   | EA          | 0.444          | 150.00          | 45.50        | 195.50       |
| 136 to 250" .....                                  | EA          | 0.500          | 200.00          | 51.00        | 251.00       |
| <b>12320.01 CASEWORK</b>                           |             |                |                 |              |              |
| CASEWORK   |             |                |                 |              |              |
| Kitchen base cabinet, standard, 24" deep, 35" high |             |                |                 |              |              |
| 12" wide .....                                     | EA          | 0.800          | 250.00          | 82.00        | 332.00       |
| 18" wide .....                                     | EA          | 0.800          | 290.00          | 82.00        | 372.00       |
| 24" wide .....                                     | EA          | 0.889          | 370.00          | 91.00        | 461.00       |
| 27" wide .....                                     | EA          | 0.889          | 420.00          | 91.00        | 511.00       |
| 36" wide .....                                     | EA          | 1.000          | 500.00          | 100.00       | 600.00       |
| 48" wide .....                                     | EA          | 1.000          | 600.00          | 100.00       | 700.00       |
| Drawer base, 24" deep, 35" high                    |             |                |                 |              |              |
| 15" wide .....                                     | EA          | 0.800          | 310.00          | 82.00        | 392.00       |
| 18" wide .....                                     | EA          | 0.800          | 330.00          | 82.00        | 412.00       |
| 24" wide .....                                     | EA          | 0.889          | 540.00          | 91.00        | 631.00       |
| 27" wide .....                                     | EA          | 0.889          | 610.00          | 91.00        | 701.00       |
| 30" wide .....                                     | EA          | 0.889          | 710.00          | 91.00        | 801.00       |
| Sink-ready base cabinet                            |             |                |                 |              |              |
| 30" wide .....                                     | EA          | 0.889          | 330.00          | 91.00        | 421.00       |
| 36" wide .....                                     | EA          | 0.889          | 350.00          | 91.00        | 441.00       |
| 42" wide .....                                     | EA          | 0.889          | 380.00          | 91.00        | 471.00       |
| 60" wide .....                                     | EA          | 1.000          | 450.00          | 100.00       | 550.00       |
| Corner cabinet, 36" wide .....                     | EA          | 1.000          | 630.00          | 100.00       | 730.00       |
| Wall cabinet, 12" deep, 12" high                   |             |                |                 |              |              |
| 30" wide .....                                     | EA          | 0.800          | 320.00          | 82.00        | 402.00       |
| 36" wide .....                                     | EA          | 0.800          | 330.00          | 82.00        | 412.00       |
| 15" high   |             |                |                 |              |              |
| 30" wide .....                                     | EA          | 0.889          | 370.00          | 91.00        | 461.00       |
| 36" wide .....                                     | EA          | 0.889          | 560.00          | 91.00        | 651.00       |
| 24" high   |             |                |                 |              |              |
| 30" wide .....                                     | EA          | 0.889          | 410.00          | 91.00        | 501.00       |
| 36" wide .....                                     | EA          | 0.889          | 430.00          | 91.00        | 521.00       |
| 30" high   |             |                |                 |              |              |
| 12" wide .....                                     | EA          | 1.000          | 240.00          | 100.00       | 340.00       |
| 18" wide .....                                     | EA          | 1.000          | 270.00          | 100.00       | 370.00       |
| 24" wide .....                                     | EA          | 1.000          | 290.00          | 100.00       | 390.00       |
| 27" wide .....                                     | EA          | 1.000          | 350.00          | 100.00       | 450.00       |

## DIVISION 12 FURNISHINGS

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>12320.01 CASEWORK (Cont.)</u></b> |             |                |                 |              |              |
| 30" high                                |             |                |                 |              |              |
| 30" wide .....                          | EA          | 1.143          | 390.00          | 120.00       | 510.00       |
| 36" wide .....                          | EA          | 1.143          | 400.00          | 120.00       | 520.00       |
| Corner cabinet, 30" high                |             |                |                 |              |              |
| 24" wide .....                          | EA          | 1.333          | 440.00          | 140.00       | 580.00       |
| 30" wide .....                          | EA          | 1.333          | 530.00          | 140.00       | 670.00       |
| 36" wide .....                          | EA          | 1.333          | 580.00          | 140.00       | 720.00       |
| Wardrobe .....                          | EA          | 2.000          | 1,160.00        | 200.00       | 1,360.00     |
| Vanity with top, laminated plastic      |             |                |                 |              |              |
| 24" wide .....                          | EA          | 2.000          | 960.00          | 200.00       | 1,160.00     |
| 30" wide .....                          | EA          | 2.000          | 1,070.00        | 200.00       | 1,270.00     |
| 36" wide .....                          | EA          | 2.667          | 1,240.00        | 270.00       | 1,510.00     |
| 48" wide .....                          | EA          | 3.200          | 1,380.00        | 330.00       | 1,710.00     |
| Cabinet hardware                        |             |                |                 |              |              |
| Handles                                 |             |                |                 |              |              |
| Minimum .....                           | EA          | 0.133          | 3.30            | 13.75        | 17.05        |
| Average .....                           | EA          | 0.160          | 4.40            | 16.25        | 20.65        |
| Maximum .....                           | EA          | 0.200          | 8.80            | 20.50        | 29.30        |
| Pulls/knobs                             |             |                |                 |              |              |
| Minimum .....                           | EA          | 0.080          | 2.20            | 8.18         | 10.38        |
| Average .....                           | EA          | 0.089          | 3.30            | 9.08         | 12.38        |
| Maximum .....                           | EA          | 0.107          | 6.60            | 11.00        | 17.60        |

## **12360.01 COUNTERTOPS**

### COUNTERTOPS

|  |    |       |        |       |        |
|--|----|-------|--------|-------|--------|
| Stainless steel, countertop, with backsplash ..... | SF | 0.200 | 290.00 | 20.50 | 310.50 |
| Acid-proof, kemrock surface .....                  | SF | 0.133 | 120.00 | 13.75 | 133.75 |
| Stone countertop, installed complete               |    |       |        |       |        |
| Minimum .....                                      | SF |       |        |       | 77.00  |
| Average .....                                      | SF |       |        |       | 99.00  |
| Maximum .....                                      | SF |       |        |       | 130.00 |
| Add for backsplash .....                           | SF |       |        |       | 150.00 |
| Add for cutouts .....                              | EA |       |        |       | 330.00 |

## DIVISION 13 SPECIAL CONSTRUCTION

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>13341.90 PRE-ENGINEERED BUILDINGS</u></b> |             |                |                 |              |              |
| PRE-ENGINEERED BUILDINGS                        |             |                |                 |              |              |
| Pre-engineered metal building, 40'x100'         |             |                |                 |              |              |
| 14' eave height .....                           | SF .....    | 0.032 .....    | 11.75 .....     | 7.07 .....   | 18.82        |
| 16' eave height .....                           | SF .....    | 0.037 .....    | 13.50 .....     | 8.16 .....   | 21.66        |

## DIVISION 14 CONVEYING

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>14410.01 PERSONNEL LIFTS</b>            |             |                |                 |              |              |
| PERSONNEL LIFTS                            |             |                |                 |              |              |
| Electrically operated, 1 or 2 person lift  |             |                |                 |              |              |
| With attached foot platforms               |             |                |                 |              |              |
| 3 stops .....                              | EA          |                |                 |              | 13,750.00    |
| Residential stair climber, per story ..... | EA          | 6.667          | 6,380.00        | 690.00       | 7,070.00     |

## DIVISION 21 FIRE SUPPRESSION

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|                                 | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b><u>21111.60 HYDRANTS</u></b> |             |                |                 |              |              |
| HYDRANTS                        |             |                |                 |              |              |
| Wall hydrant                    |             |                |                 |              |              |
| 8" thick .....                  | EA          | ..... 1.333    | ..... 400.00    | ..... 150.00 | ..... 550.00 |
| 12" thick .....                 | EA          | ..... 1.600    | ..... 470.00    | ..... 180.00 | ..... 650.00 |

## DIVISION 22 PLUMBING

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>22052.36 VALVES</b>                               |             |                |                 |              |              |
| VALVES   |             |                |                 |              |              |
| Gate valve, 125 lb, bronze, soldered                 |             |                |                 |              |              |
| 1/2"   | EA          | 0.200          | 43.75           | 22.50        | 66.25        |
| 3/4"   | EA          | 0.200          | 52.00           | 22.50        | 74.50        |
| Threaded   |             |                |                 |              |              |
| 1/4", 125 lb   | EA          | 0.320          | 37.50           | 35.75        | 73.25        |
| 1/2"   |             |                |                 |              |              |
| 125 lb   | EA          | 0.320          | 35.75           | 35.75        | 71.50        |
| 150 lb   | EA          | 0.320          | 48.00           | 35.75        | 83.75        |
| 300 lb   | EA          | 0.320          | 90.00           | 35.75        | 125.75       |
| 3/4"   |             |                |                 |              |              |
| 125 lb   | EA          | 0.320          | 42.00           | 35.75        | 77.75        |
| 150 lb   | EA          | 0.320          | 57.00           | 35.75        | 92.75        |
| 300 lb   | EA          | 0.320          | 110.00          | 35.75        | 145.75       |
| Check valve, bronze, soldered, 125 lb                |             |                |                 |              |              |
| 1/2"   | EA          | 0.200          | 65.00           | 22.50        | 87.50        |
| 3/4"   | EA          | 0.200          | 81.00           | 22.50        | 103.50       |
| Threaded   |             |                |                 |              |              |
| 1/2"   |             |                |                 |              |              |
| 125 lb   | EA          | 0.267          | 76.00           | 30.00        | 106.00       |
| 150 lb   | EA          | 0.267          | 70.00           | 30.00        | 100.00       |
| 200 lb   | EA          | 0.267          | 73.00           | 30.00        | 103.00       |
| 3/4"   |             |                |                 |              |              |
| 125 lb   | EA          | 0.320          | 56.00           | 35.75        | 91.75        |
| 150 lb   | EA          | 0.320          | 88.00           | 35.75        | 123.75       |
| 200 lb   | EA          | 0.320          | 97.00           | 35.75        | 132.75       |
| Vertical check valve, bronze, 125 lb, threaded       |             |                |                 |              |              |
| 1/2"   | EA          | 0.320          | 86.00           | 35.75        | 121.75       |
| 3/4"   | EA          | 0.364          | 130.00          | 40.75        | 170.75       |
| Globe valve, bronze, soldered, 125 lb                |             |                |                 |              |              |
| 1/2"   | EA          | 0.229          | 96.00           | 25.50        | 121.50       |
| 3/4"   | EA          | 0.250          | 120.00          | 28.00        | 148.00       |
| Threaded   |             |                |                 |              |              |
| 1/2"   |             |                |                 |              |              |
| 125 lb   | EA          | 0.267          | 77.00           | 30.00        | 107.00       |
| 150 lb   | EA          | 0.267          | 100.00          | 30.00        | 130.00       |
| 300 lb   | EA          | 0.267          | 190.00          | 30.00        | 220.00       |
| 3/4"   |             |                |                 |              |              |
| 125 lb   | EA          | 0.320          | 110.00          | 35.75        | 145.75       |
| 150 lb   | EA          | 0.320          | 120.00          | 35.75        | 155.75       |
| 300 lb   | EA          | 0.320          | 230.00          | 35.75        | 265.75       |
| Ball valve, bronze, 250 lb, threaded                 |             |                |                 |              |              |
| 1/2"   | EA          | 0.320          | 20.50           | 35.75        | 56.25        |
| 3/4"   | EA          | 0.320          | 30.50           | 35.75        | 66.25        |
| Angle valve, bronze, 150 lb, threaded                |             |                |                 |              |              |
| 1/2"   | EA          | 0.286          | 100.00          | 32.00        | 132.00       |
| 3/4"   | EA          | 0.320          | 140.00          | 35.75        | 175.75       |
| Balancing valve, meter connections, circuit setter   |             |                |                 |              |              |
| 1/2"   | EA          | 0.320          | 99.00           | 35.75        | 134.75       |
| 3/4"   | EA          | 0.364          | 100.00          | 40.75        | 140.75       |
| Balancing valve, straight type                       |             |                |                 |              |              |
| 1/2"   | EA          | 0.320          | 48.25           | 35.75        | 84.00        |
| 3/4"   | EA          | 0.320          | 59.00           | 35.75        | 94.75        |
| Angle type   |             |                |                 |              |              |
| 1/2"   | EA          | 0.320          | 65.00           | 35.75        | 100.75       |
| 3/4"   | EA          | 0.320          | 91.00           | 35.75        | 126.75       |
| Square head cock, 125 lb, bronze body                |             |                |                 |              |              |
| 1/2"   | EA          | 0.267          | 21.25           | 30.00        | 51.25        |
| 3/4"   | EA          | 0.320          | 25.50           | 35.75        | 61.25        |
| Radiator temp control valve, with control and sensor |             |                |                 |              |              |
| 1/2" valve   | EA          | 0.500          | 150.00          | 56.00        | 206.00       |
| Pressure relief valve, 1/2", bronze                  |             |                |                 |              |              |
| Low pressure   | EA          | 0.320          | 34.00           | 35.75        | 69.75        |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22052.36 VALVES (Cont.)</b>                    |             |                |                 |              |              |
| Pressure relief valve, 1/2", bronze               |             |                |                 |              |              |
| High pressure .....                               | EA          | 0.320          | 39.50           | 35.75        | 75.25        |
| Pressure and temperature relief valve             |             |                |                 |              |              |
| Bronze, 3/4" .....                                | EA          | 0.320          | 180.00          | 35.75        | 215.75       |
| Cast iron, 3/4"                                   |             |                |                 |              |              |
| High pressure .....                               | EA          | 0.320          | 88.00           | 35.75        | 123.75       |
| Temperature relief .....                          | EA          | 0.320          | 120.00          | 35.75        | 155.75       |
| Pressure & temp relief valve .....                | EA          | 0.320          | 140.00          | 35.75        | 175.75       |
| Pressure reducing valve, bronze, threaded, 250 lb |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.500          | 200.00          | 56.00        | 256.00       |
| 3/4" .....  | EA          | 0.500          | 200.00          | 56.00        | 256.00       |
| Solar water temperature regulating valve          |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.667          | 770.00          | 75.00        | 845.00       |
| Tempering valve, threaded                         |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.267          | 470.00          | 30.00        | 500.00       |
| Thermostatic mixing valve, threaded               |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.286          | 130.00          | 32.00        | 162.00       |
| 3/4" .....  | EA          | 0.320          | 130.00          | 35.75        | 165.75       |
| Sweat connection                                  |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.286          | 110.00          | 32.00        | 142.00       |
| 3/4" .....  | EA          | 0.320          | 140.00          | 35.75        | 175.75       |
| Mixing valve, sweat connection                    |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.286          | 79.00           | 32.00        | 111.00       |
| 3/4" .....  | EA          | 0.320          | 79.00           | 35.75        | 114.75       |
| Liquid level gauge, aluminum body                 |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.320          | 400.00          | 35.75        | 435.75       |
| 125 psi, PVC body                                 |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.320          | 470.00          | 35.75        | 505.75       |
| 150 psi, CRS body                                 |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.320          | 380.00          | 35.75        | 415.75       |
| 175 psi, bronze body, 1/2" .....                  | EA          | 0.286          | 760.00          | 32.00        | 792.00       |

## **22062.91 PIPE HANGERS, LIGHT**

### PIPE HANGERS, LIGHT

#### A band, black iron

|              |    |       |      |       |       |
|--------------|----|-------|------|-------|-------|
| 1/2" .....   | EA | 0.057 | 1.03 | 6.40  | 7.43  |
| 1" .....     | EA | 0.059 | 1.11 | 6.64  | 7.75  |
| 1-1/4" ..... | EA | 0.062 | 1.23 | 6.89  | 8.12  |
| 1-1/2" ..... | EA | 0.067 | 1.28 | 7.47  | 8.75  |
| 2" .....     | EA | 0.073 | 1.36 | 8.15  | 9.51  |
| 2-1/2" ..... | EA | 0.080 | 2.03 | 8.96  | 10.99 |
| 3" .....     | EA | 0.089 | 2.48 | 9.96  | 12.44 |
| 4" .....     | EA | 0.100 | 3.26 | 11.25 | 14.51 |

#### Copper

|              |    |       |      |       |       |
|--------------|----|-------|------|-------|-------|
| 1/2" .....   | EA | 0.057 | 1.67 | 6.40  | 8.07  |
| 3/4" .....   | EA | 0.059 | 1.94 | 6.64  | 8.58  |
| 1" .....     | EA | 0.059 | 1.94 | 6.64  | 8.58  |
| 1-1/4" ..... | EA | 0.062 | 2.09 | 6.89  | 8.98  |
| 1-1/2" ..... | EA | 0.067 | 2.24 | 7.47  | 9.71  |
| 2" .....     | EA | 0.073 | 2.37 | 8.15  | 10.52 |
| 2-1/2" ..... | EA | 0.080 | 4.79 | 8.96  | 13.75 |
| 3" .....     | EA | 0.089 | 4.99 | 9.96  | 14.95 |
| 4" .....     | EA | 0.100 | 5.51 | 11.25 | 16.76 |

#### 2 hole clips, galvanized

|              |    |       |      |      |       |
|--------------|----|-------|------|------|-------|
| 3/4" .....   | EA | 0.053 | 0.27 | 5.97 | 6.24  |
| 1" .....     | EA | 0.055 | 0.33 | 6.18 | 6.51  |
| 1-1/4" ..... | EA | 0.057 | 0.43 | 6.40 | 6.83  |
| 1-1/2" ..... | EA | 0.059 | 0.53 | 6.64 | 7.17  |
| 2" .....     | EA | 0.062 | 0.70 | 6.89 | 7.59  |
| 2-1/2" ..... | EA | 0.064 | 1.25 | 7.17 | 8.42  |
| 3" .....     | EA | 0.067 | 1.66 | 7.47 | 9.13  |
| 4" .....     | EA | 0.073 | 3.56 | 8.15 | 11.71 |

## DIVISION 22 PLUMBING

|   | Unit | Man-Hrs | Material | Labor | Total |
|---|------|---------|----------|-------|-------|
| <b>22062.91 PIPE HANGERS, LIGHT (Cont.)</b> |      |         |          |       |       |
| Perforated strap                            |      |         |          |       |       |
| 3/4"  |      |         |          |       |       |
| Galvanized, 20 ga.....                      | LF   | 0.040   | 0.44     | 4.48  | 4.92  |
| Copper, 22 ga.....                          | LF   | 0.040   | 2.20     | 4.48  | 6.68  |
| J-Hooks                                     |      |         |          |       |       |
| 1/2" .....                                  | EA   | 0.036   | 0.87     | 4.07  | 4.94  |
| 3/4" .....                                  | EA   | 0.036   | 0.93     | 4.07  | 5.00  |
| 1" .....                                    | EA   | 0.038   | 0.95     | 4.27  | 5.22  |
| 1-1/4" .....                                | EA   | 0.039   | 1.00     | 4.37  | 5.37  |
| 1-1/2" .....                                | EA   | 0.040   | 1.02     | 4.48  | 5.50  |
| 2" .....                                    | EA   | 0.040   | 1.07     | 4.48  | 5.55  |
| 3" .....                                    | EA   | 0.042   | 1.23     | 4.72  | 5.95  |
| 4" .....                                    | EA   | 0.042   | 1.33     | 4.72  | 6.05  |
| PVC coated hangers, galvanized, 28 ga.      |      |         |          |       |       |
| 1-1/2" x 12" .....                          | EA   | 0.053   | 1.86     | 5.97  | 7.83  |
| 2" x 12" .....                              | EA   | 0.057   | 2.04     | 6.40  | 8.44  |
| 3" x 12" .....                              | EA   | 0.062   | 2.28     | 6.89  | 9.17  |
| 4" x 12" .....                              | EA   | 0.067   | 2.53     | 7.47  | 10.00 |
| Copper, 30 ga.                              |      |         |          |       |       |
| 1-1/2" x 12" .....                          | EA   | 0.053   | 2.28     | 5.97  | 8.25  |
| 2" x 12" .....                              | EA   | 0.057   | 2.71     | 6.40  | 9.11  |
| 3" x 12" .....                              | EA   | 0.062   | 3.01     | 6.89  | 9.90  |
| 4" x 12" .....                              | EA   | 0.067   | 3.30     | 7.47  | 10.77 |
| Wire hook hangers                           |      |         |          |       |       |
| Black wire, 1/2" x                          |      |         |          |       |       |
| 4" .....                                    | EA   | 0.040   | 0.44     | 4.48  | 4.92  |
| 6" .....                                    | EA   | 0.042   | 0.50     | 4.72  | 5.22  |
| Copper wire hooks                           |      |         |          |       |       |
| 1/2" x                                      |      |         |          |       |       |
| 4" .....                                    | EA   | 0.040   | 0.58     | 4.48  | 5.06  |
| 6" .....                                    | EA   | 0.042   | 0.66     | 4.72  | 5.38  |

### **22064.81 VIBRATION CONTROL**

#### VIBRATION CONTROL

Vibration isolator, in-line, stainless connector

|              |    |       |        |       |        |
|--------------|----|-------|--------|-------|--------|
| 1/2" .....   | EA | 0.444 | 100.00 | 49.75 | 149.75 |
| 3/4" .....   | EA | 0.471 | 120.00 | 53.00 | 173.00 |
| 1" .....     | EA | 0.500 | 120.00 | 56.00 | 176.00 |
| 1-1/4" ..... | EA | 0.533 | 170.00 | 60.00 | 230.00 |
| 1-1/2" ..... | EA | 0.571 | 190.00 | 64.00 | 254.00 |
| 2" .....     | EA | 0.615 | 230.00 | 69.00 | 299.00 |
| 2-1/2" ..... | EA | 0.667 | 340.00 | 75.00 | 415.00 |
| 3" .....     | EA | 0.727 | 400.00 | 82.00 | 482.00 |
| 4" .....     | EA | 0.800 | 510.00 | 90.00 | 600.00 |

### **22069.31 SPECIALTIES**

#### SPECIALTIES

Wall penetration

Concrete wall, 6" thick

|               |    |       |       |       |
|---------------|----|-------|-------|-------|
| 2" dia. ..... | EA | 0.267 | 21.25 | 21.25 |
| 4" dia. ..... | EA | 0.400 | 32.00 | 32.00 |
| 12" thick     |    |       |       |       |
| 2" dia. ..... | EA | 0.364 | 29.00 | 29.00 |
| 4" dia. ..... | EA | 0.571 | 45.75 | 45.75 |

### **22111.61 COPPER PIPE**

#### COPPER PIPE

Type K copper

|              |    |       |       |      |       |
|--------------|----|-------|-------|------|-------|
| 1/4" .....   | LF | 0.024 | 2.12  | 2.63 | 4.75  |
| 3/8" .....   | LF | 0.024 | 3.25  | 2.63 | 5.88  |
| 1/2" .....   | LF | 0.025 | 3.77  | 2.80 | 6.57  |
| 3/4" .....   | LF | 0.027 | 7.03  | 2.98 | 10.01 |
| 1" .....     | LF | 0.029 | 9.20  | 3.20 | 12.40 |
| 3-1/2" ..... | LF | 0.043 | 61.00 | 4.84 | 65.84 |

DWV, copper

|              |    |       |       |      |       |
|--------------|----|-------|-------|------|-------|
| 1-1/4" ..... | LF | 0.033 | 10.25 | 3.73 | 13.98 |
| 1-1/2" ..... | LF | 0.036 | 13.00 | 4.07 | 17.07 |

## DIVISION 22 PLUMBING

|                                      | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.61 COPPER PIPE (Cont.)</b>  |             |                |                 |              |              |
| DWV, copper                          |             |                |                 |              |              |
| 2"                                   | LF          | 0.040          | 17.00           | 4.48         | 21.48        |
| 3"                                   | LF          | 0.044          | 29.00           | 4.98         | 33.98        |
| 4"                                   | LF          | 0.050          | 50.00           | 5.60         | 55.60        |
| 6"                                   | LF          | 0.057          | 200.00          | 6.40         | 206.40       |
| Refrigeration tubing, copper, sealed |             |                |                 |              |              |
| 1/8"                                 | LF          | 0.032          | 0.93            | 3.58         | 4.51         |
| 3/16"                                | LF          | 0.033          | 1.08            | 3.73         | 4.81         |
| 1/4"                                 | LF          | 0.035          | 1.30            | 3.89         | 5.19         |
| Type L copper                        |             |                |                 |              |              |
| 1/4"                                 | LF          | 0.024          | 1.67            | 2.63         | 4.30         |
| 3/8"                                 | LF          | 0.024          | 2.56            | 2.63         | 5.19         |
| 1/2"                                 | LF          | 0.025          | 2.98            | 2.80         | 5.78         |
| 3/4"                                 | LF          | 0.027          | 4.76            | 2.98         | 7.74         |
| 1"                                   | LF          | 0.029          | 7.16            | 3.20         | 10.36        |
| Type M copper                        |             |                |                 |              |              |
| 3/8"                                 | LF          | 0.024          | 1.81            | 2.63         | 4.44         |
| 1/2"                                 | LF          | 0.025          | 2.10            | 2.80         | 4.90         |
| 3/4"                                 | LF          | 0.027          | 3.43            | 2.98         | 6.41         |
| 1"                                   | LF          | 0.029          | 5.57            | 3.20         | 8.77         |
| 1-1/2"                               | LF          | 0.033          | 11.00           | 3.73         | 14.73        |
| 3-1/2"                               | LF          | 0.043          | 46.50           | 4.84         | 51.34        |
| Type K tube, coil, material only     |             |                |                 |              |              |
| 1/4" x 60'                           | EA          |                |                 |              | 150.00       |
| 1/2" x 60'                           | EA          |                |                 |              | 310.00       |
| 1/2" x 100'                          | EA          |                |                 |              | 510.00       |
| 3/4" x 60'                           | EA          |                |                 |              | 570.00       |
| 3/4" x 100'                          | EA          |                |                 |              | 950.00       |
| 1" x 60'                             | EA          |                |                 |              | 740.00       |
| 1" x 100'                            | EA          |                |                 |              | 1,240.00     |
| Type L tube, coil                    |             |                |                 |              |              |
| 1/4" x 60'                           | EA          |                |                 |              | 120.00       |
| 3/8" x 60'                           | EA          |                |                 |              | 190.00       |
| 1/2" x 60'                           | EA          |                |                 |              | 250.00       |
| 1/2" x 100'                          | EA          |                |                 |              | 420.00       |
| 3/4" x 60'                           | EA          |                |                 |              | 400.00       |
| 3/4" x 100'                          | EA          |                |                 |              | 670.00       |
| 1" x 60'                             | EA          |                |                 |              | 580.00       |
| 1" x 100'                            | EA          |                |                 |              | 970.00       |

## **22111.62 COPPER FITTINGS**

### COPPER FITTINGS

#### Coupling, with stop

|      |    |       |      |       |       |
|------|----|-------|------|-------|-------|
| 1/4" | EA | 0.267 | 0.95 | 30.00 | 30.95 |
| 3/8" | EA | 0.320 | 1.24 | 35.75 | 36.99 |
| 1/2" | EA | 0.348 | 0.99 | 39.00 | 39.99 |
| 5/8" | EA | 0.400 | 2.87 | 44.75 | 47.62 |
| 3/4" | EA | 0.444 | 1.97 | 49.75 | 51.72 |
| 1"   | EA | 0.471 | 4.06 | 53.00 | 57.06 |

#### Reducing coupling

|             |    |       |      |       |       |
|-------------|----|-------|------|-------|-------|
| 1/4" x 1/8" | EA | 0.320 | 2.54 | 35.75 | 38.29 |
| 3/8" x 1/4" | EA | 0.348 | 2.79 | 39.00 | 41.79 |
| 1/2" x      |    |       |      |       |       |
| 3/8"        | EA | 0.400 | 2.10 | 44.75 | 46.85 |
| 1/4"        | EA | 0.400 | 2.54 | 44.75 | 47.29 |
| 1/8"        | EA | 0.400 | 2.80 | 44.75 | 47.55 |
| 3/4" x      |    |       |      |       |       |
| 3/8"        | EA | 0.444 | 4.50 | 49.75 | 54.25 |
| 1/2"        | EA | 0.444 | 3.56 | 49.75 | 53.31 |
| 1" x        |    |       |      |       |       |
| 3/8"        | EA | 0.500 | 8.08 | 56.00 | 64.08 |
| 1" x 1/2"   | EA | 0.500 | 7.82 | 56.00 | 63.82 |
| 1" x 3/4"   | EA | 0.500 | 6.59 | 56.00 | 62.59 |

## DIVISION 22 PLUMBING

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.62 COPPER FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Coupling, with stop                     |             |                |                 |              |              |
| Slip coupling                           |             |                |                 |              |              |
| 1/4"                                    | EA          | 0.267          | 0.78            | 30.00        | 30.78        |
| 1/2"                                    | EA          | 0.320          | 1.31            | 35.75        | 37.06        |
| 3/4"                                    | EA          | 0.400          | 2.74            | 44.75        | 47.49        |
| 1"                                      | EA          | 0.444          | 5.82            | 49.75        | 55.57        |
| Coupling with drain                     |             |                |                 |              |              |
| 1/2"                                    | EA          | 0.400          | 10.00           | 44.75        | 54.75        |
| 3/4"                                    | EA          | 0.444          | 14.75           | 49.75        | 64.50        |
| 1"                                      | EA          | 0.500          | 18.25           | 56.00        | 74.25        |
| Reducer                                 |             |                |                 |              |              |
| 3/8" x 1/4"                             | EA          | 0.320          | 2.85            | 35.75        | 38.60        |
| 1/2" x 3/8"                             | EA          | 0.320          | 2.29            | 35.75        | 38.04        |
| 3/4" x                                  |             |                |                 |              |              |
| 1/4"                                    | EA          | 0.364          | 4.65            | 40.75        | 45.40        |
| 3/8"                                    | EA          | 0.364          | 4.86            | 40.75        | 45.61        |
| 1/2"                                    | EA          | 0.364          | 5.06            | 40.75        | 45.81        |
| 1" x                                    |             |                |                 |              |              |
| 1/2"                                    | EA          | 0.400          | 6.99            | 44.75        | 51.74        |
| 3/4"                                    | EA          | 0.400          | 5.36            | 44.75        | 50.11        |
| Female adapters                         |             |                |                 |              |              |
| 1/4"                                    | EA          | 0.320          | 5.92            | 35.75        | 41.67        |
| 3/8"                                    | EA          | 0.364          | 6.06            | 40.75        | 46.81        |
| 1/2"                                    | EA          | 0.400          | 2.88            | 44.75        | 47.63        |
| 3/4"                                    | EA          | 0.444          | 3.95            | 49.75        | 53.70        |
| 1"                                      | EA          | 0.444          | 9.16            | 49.75        | 58.91        |
| Increasing female adapters              |             |                |                 |              |              |
| 1/8" x                                  |             |                |                 |              |              |
| 3/8"                                    | EA          | 0.320          | 7.27            | 35.75        | 43.02        |
| 1/2"                                    | EA          | 0.320          | 6.78            | 35.75        | 42.53        |
| 1/4" x 1/2"                             | EA          | 0.348          | 7.10            | 39.00        | 46.10        |
| 3/8" x 1/2"                             | EA          | 0.364          | 7.62            | 40.75        | 48.37        |
| 1/2" x                                  |             |                |                 |              |              |
| 3/4"                                    | EA          | 0.400          | 8.08            | 44.75        | 52.83        |
| 1"                                      | EA          | 0.400          | 16.25           | 44.75        | 61.00        |
| 3/4" x                                  |             |                |                 |              |              |
| 1"                                      | EA          | 0.444          | 17.25           | 49.75        | 67.00        |
| 1-1/4"                                  | EA          | 0.444          | 29.25           | 49.75        | 79.00        |
| 1" x                                    |             |                |                 |              |              |
| 1-1/4"                                  | EA          | 0.444          | 31.00           | 49.75        | 80.75        |
| 1-1/2"                                  | EA          | 0.444          | 34.00           | 49.75        | 83.75        |
| Reducing female adapters                |             |                |                 |              |              |
| 3/8" x 1/4"                             | EA          | 0.364          | 6.55            | 40.75        | 47.30        |
| 1/2" x                                  |             |                |                 |              |              |
| 1/4"                                    | EA          | 0.400          | 5.63            | 44.75        | 50.38        |
| 3/8"                                    | EA          | 0.400          | 5.63            | 44.75        | 50.38        |
| 3/4" x 1/2"                             | EA          | 0.444          | 7.86            | 49.75        | 57.61        |
| 1" x                                    |             |                |                 |              |              |
| 1/2"                                    | EA          | 0.444          | 14.75           | 49.75        | 64.50        |
| 3/4"                                    | EA          | 0.444          | 11.75           | 49.75        | 61.50        |
| Female fitting adapters                 |             |                |                 |              |              |
| 1/2"                                    | EA          | 0.400          | 10.00           | 44.75        | 54.75        |
| 3/4"                                    | EA          | 0.400          | 13.00           | 44.75        | 57.75        |
| 3/4" x 1/2"                             | EA          | 0.421          | 15.50           | 47.25        | 62.75        |
| 1"                                      | EA          | 0.444          | 17.25           | 49.75        | 67.00        |
| Male adapters                           |             |                |                 |              |              |
| 1/4"                                    | EA          | 0.364          | 11.25           | 40.75        | 52.00        |
| 3/8"                                    | EA          | 0.364          | 5.63            | 40.75        | 46.38        |
| Increasing male adapters                |             |                |                 |              |              |
| 3/8" x 1/2"                             | EA          | 0.364          | 7.68            | 40.75        | 48.43        |
| 1/2" x                                  |             |                |                 |              |              |
| 3/4"                                    | EA          | 0.400          | 6.66            | 44.75        | 51.41        |
| 1"                                      | EA          | 0.400          | 15.00           | 44.75        | 59.75        |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.62 COPPER FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Increasing male adapters                |             |                |                 |              |              |
| 3/4" x                                  |             |                |                 |              |              |
| 1" .....                                | EA          | 0.421          | 14.75           | 47.25        | 62.00        |
| 1-1/4" .....                            | EA          | 0.421          | 18.75           | 47.25        | 66.00        |
| 1" x 1-1/4" .....                       | EA          | 0.444          | 18.75           | 49.75        | 68.50        |
| Reducing male adapters                  |             |                |                 |              |              |
| 1/2" x                                  |             |                |                 |              |              |
| 1/4" .....                              | EA          | 0.400          | 8.30            | 44.75        | 53.05        |
| 3/8" .....                              | EA          | 0.400          | 6.89            | 44.75        | 51.64        |
| 3/4" x 1/2" .....                       | EA          | 0.421          | 7.86            | 47.25        | 55.11        |
| 1" x                                    |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.444          | 21.50           | 49.75        | 71.25        |
| 3/4" .....                              | EA          | 0.444          | 17.25           | 49.75        | 67.00        |
| Fitting x male adapters                 |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.400          | 11.25           | 44.75        | 56.00        |
| 3/4" .....                              | EA          | 0.421          | 14.50           | 47.25        | 61.75        |
| 1" .....                                | EA          | 0.444          | 14.75           | 49.75        | 64.50        |
| 90 ells                                 |             |                |                 |              |              |
| 1/8" .....                              | EA          | 0.320          | 2.12            | 35.75        | 37.87        |
| 1/4" .....                              | EA          | 0.320          | 3.37            | 35.75        | 39.12        |
| 3/8" .....                              | EA          | 0.364          | 3.20            | 40.75        | 43.95        |
| 1/2" .....                              | EA          | 0.400          | 1.06            | 44.75        | 45.81        |
| 3/4" .....                              | EA          | 0.421          | 2.40            | 47.25        | 49.65        |
| 1" .....                                | EA          | 0.444          | 5.90            | 49.75        | 55.65        |
| Reducing 90 ell                         |             |                |                 |              |              |
| 3/8" x 1/4" .....                       | EA          | 0.364          | 5.49            | 40.75        | 46.24        |
| 1/2" x                                  |             |                |                 |              |              |
| 1/4" .....                              | EA          | 0.400          | 7.86            | 44.75        | 52.61        |
| 3/8" .....                              | EA          | 0.400          | 7.86            | 44.75        | 52.61        |
| 3/4" x 1/2" .....                       | EA          | 0.421          | 6.90            | 47.25        | 54.15        |
| 1" x                                    |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.444          | 12.00           | 49.75        | 61.75        |
| 3/4" .....                              | EA          | 0.444          | 11.25           | 49.75        | 61.00        |
| Street ells, copper                     |             |                |                 |              |              |
| 1/4" .....                              | EA          | 0.320          | 5.69            | 35.75        | 41.44        |
| 3/8" .....                              | EA          | 0.364          | 3.92            | 40.75        | 44.67        |
| 1/2" .....                              | EA          | 0.400          | 1.58            | 44.75        | 46.33        |
| 3/4" .....                              | EA          | 0.421          | 3.33            | 47.25        | 50.58        |
| 1" .....                                | EA          | 0.444          | 8.62            | 49.75        | 58.37        |
| Female, 90 ell                          |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.400          | 1.07            | 44.75        | 45.82        |
| 3/4" .....                              | EA          | 0.421          | 2.42            | 47.25        | 49.67        |
| 1" .....                                | EA          | 0.444          | 5.96            | 49.75        | 55.71        |
| Female increasing, 90 ell               |             |                |                 |              |              |
| 3/8" x 1/2" .....                       | EA          | 0.364          | 12.00           | 40.75        | 52.75        |
| 1/2" x                                  |             |                |                 |              |              |
| 3/4" .....                              | EA          | 0.400          | 8.33            | 44.75        | 53.08        |
| 1" .....                                | EA          | 0.400          | 17.00           | 44.75        | 61.75        |
| 3/4" x 1" .....                         | EA          | 0.421          | 15.25           | 47.25        | 62.50        |
| 1" x 1-1/4" .....                       | EA          | 0.444          | 39.00           | 49.75        | 88.75        |
| Female reducing, 90 ell                 |             |                |                 |              |              |
| 1/2" x 3/8" .....                       | EA          | 0.400          | 13.25           | 44.75        | 58.00        |
| 3/4" x 1/2" .....                       | EA          | 0.421          | 14.75           | 47.25        | 62.00        |
| 1" x                                    |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.444          | 20.75           | 49.75        | 70.50        |
| 3/4" .....                              | EA          | 0.444          | 22.25           | 49.75        | 72.00        |
| Male, 90 ell                            |             |                |                 |              |              |
| 1/4" .....                              | EA          | 0.320          | 10.25           | 35.75        | 46.00        |
| 3/8" .....                              | EA          | 0.364          | 11.00           | 40.75        | 51.75        |
| 1/2" .....                              | EA          | 0.400          | 5.66            | 44.75        | 50.41        |
| 3/4" .....                              | EA          | 0.421          | 12.75           | 47.25        | 60.00        |
| 1" .....                                | EA          | 0.444          | 14.75           | 49.75        | 64.50        |

## DIVISION 22 PLUMBING

|   | Unit | Man-Hrs | Material | Labor | Total |
|---|------|---------|----------|-------|-------|
| <b>22111.62 COPPER FITTINGS (Cont.)</b> |      |         |          |       |       |
| Coupling, with stop                     |      |         |          |       |       |
| Male, increasing 90 ell                 |      |         |          |       |       |
| 1/2" x                                  |      |         |          |       |       |
| 3/4" .....                              | EA   | 0.400   | 20.25    | 44.75 | 65.00 |
| 1" .....                                | EA   | 0.400   | 39.75    | 44.75 | 84.50 |
| 3/4" x 1"                               |      |         |          |       |       |
| 1" x 1-1/4" .....                       | EA   | 0.421   | 38.00    | 47.25 | 85.25 |
| 1" x                                    |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.444   | 35.00    | 49.75 | 84.75 |
| Male, reducing 90 ell                   |      |         |          |       |       |
| 1/2" x 3/8"                             |      |         |          |       |       |
| 3/4" x 1/2" .....                       | EA   | 0.400   | 11.50    | 44.75 | 56.25 |
| 1" x                                    |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.421   | 20.25    | 47.25 | 67.50 |
| 3/4" .....                              | EA   | 0.444   | 36.25    | 49.75 | 86.00 |
| Drop ear ell                            |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.400   | 7.30     | 44.75 | 52.05 |
| Female drop ear ell                     |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.400   | 7.30     | 44.75 | 52.05 |
| 1/2" x 3/8"                             |      |         |          |       |       |
| 3/4" .....                              | EA   | 0.400   | 12.75    | 44.75 | 57.50 |
| 1/2" .....                              | EA   | 0.421   | 21.25    | 47.25 | 68.50 |
| Female flanged sink ell                 |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.400   | 13.25    | 44.75 | 58.00 |
| 45 ell                                  |      |         |          |       |       |
| 1/4" .....                              | EA   | 0.320   | 6.09     | 35.75 | 41.84 |
| 3/8" .....                              | EA   | 0.364   | 4.94     | 40.75 | 45.69 |
| 45 street ell                           |      |         |          |       |       |
| 1/4" .....                              | EA   | 0.320   | 6.89     | 35.75 | 42.64 |
| 3/8" .....                              | EA   | 0.364   | 7.45     | 40.75 | 48.20 |
| 1/2" .....                              | EA   | 0.400   | 2.21     | 44.75 | 46.96 |
| 3/4" .....                              | EA   | 0.421   | 3.33     | 47.25 | 50.58 |
| 1" .....                                | EA   | 0.444   | 8.79     | 49.75 | 58.54 |
| Tee                                     |      |         |          |       |       |
| 1/8" .....                              | EA   | 0.320   | 5.17     | 35.75 | 40.92 |
| 1/4" .....                              | EA   | 0.320   | 5.45     | 35.75 | 41.20 |
| 3/8" .....                              | EA   | 0.364   | 4.17     | 40.75 | 44.92 |
| Caps                                    |      |         |          |       |       |
| 1/4" .....                              | EA   | 0.320   | 0.94     | 35.75 | 36.69 |
| 3/8" .....                              | EA   | 0.364   | 1.50     | 40.75 | 42.25 |
| Test caps                               |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.400   | 0.88     | 44.75 | 45.63 |
| 3/4" .....                              | EA   | 0.421   | 0.99     | 47.25 | 48.24 |
| 1" .....                                | EA   | 0.444   | 1.77     | 49.75 | 51.52 |
| Flush bushing                           |      |         |          |       |       |
| 1/4" x 1/8"                             |      |         |          |       |       |
| 1/2" x                                  |      |         |          |       |       |
| 1/4" .....                              | EA   | 0.400   | 2.43     | 44.75 | 47.18 |
| 3/8" .....                              | EA   | 0.400   | 2.15     | 44.75 | 46.90 |
| 3/4" x                                  |      |         |          |       |       |
| 3/8" .....                              | EA   | 0.421   | 4.51     | 47.25 | 51.76 |
| 1/2" .....                              | EA   | 0.421   | 3.99     | 47.25 | 51.24 |
| 1" x                                    |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.444   | 6.88     | 49.75 | 56.63 |
| 3/4" .....                              | EA   | 0.444   | 6.11     | 49.75 | 55.86 |
| Female flush bushing                    |      |         |          |       |       |
| 1/2" x                                  |      |         |          |       |       |
| 1/2" x 1/8" .....                       | EA   | 0.400   | 5.43     | 44.75 | 50.18 |
| 1/4" .....                              | EA   | 0.400   | 5.71     | 44.75 | 50.46 |
| Union                                   |      |         |          |       |       |
| 1/4" .....                              | EA   | 0.320   | 33.75    | 35.75 | 69.50 |
| 3/8" .....                              | EA   | 0.364   | 46.50    | 40.75 | 87.25 |
| Female                                  |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.400   | 16.25    | 44.75 | 61.00 |
| 3/4" .....                              | EA   | 0.421   | 16.25    | 47.25 | 63.50 |
| Male                                    |      |         |          |       |       |
| 1/2" .....                              | EA   | 0.400   | 17.50    | 44.75 | 62.25 |
| 3/4" .....                              | EA   | 0.421   | 23.25    | 47.25 | 70.50 |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.62 COPPER FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Male                                    |             |                |                 |              |              |
| 1" .....                                | EA          | 0.444          | 51.00           | 49.75        | 100.75       |
| 45 degree wye                           |             |                |                 |              |              |
| 1/2"                                    | EA          | 0.400          | 21.75           | 44.75        | 66.50        |
| 3/4"                                    | EA          | 0.421          | 31.25           | 47.25        | 78.50        |
| 1"                                      | EA          | 0.444          | 42.00           | 49.75        | 91.75        |
| 1" x 3/4" x 3/4"                        | EA          | 0.444          | 58.00           | 49.75        | 107.75       |
| Twin ells                               |             |                |                 |              |              |
| 1" x 3/4" x 3/4"                        | EA          | 0.444          | 15.25           | 49.75        | 65.00        |
| 1" x 1" x 1"                            | EA          | 0.444          | 15.25           | 49.75        | 65.00        |
| 90 union ells, male                     |             |                |                 |              |              |
| 1/2"                                    | EA          | 0.400          | 23.50           | 44.75        | 68.25        |
| 3/4"                                    | EA          | 0.421          | 39.00           | 47.25        | 86.25        |
| 1"                                      | EA          | 0.444          | 58.00           | 49.75        | 107.75       |
| DWV fittings, coupling with stop        |             |                |                 |              |              |
| 1-1/4"                                  | EA          | 0.471          | 5.31            | 53.00        | 58.31        |
| 1-1/2"                                  | EA          | 0.500          | 6.61            | 56.00        | 62.61        |
| 1-1/2" x 1-1/4"                         | EA          | 0.500          | 10.75           | 56.00        | 66.75        |
| 2"                                      | EA          | 0.533          | 9.15            | 60.00        | 69.15        |
| 2" x 1-1/4"                             | EA          | 0.533          | 12.50           | 60.00        | 72.50        |
| 2" x 1-1/2"                             | EA          | 0.533          | 12.25           | 60.00        | 72.25        |
| 3"                                      | EA          | 0.667          | 17.75           | 75.00        | 92.75        |
| 3" x 1-1/2"                             | EA          | 0.667          | 42.25           | 75.00        | 117.25       |
| 3" x 2"                                 | EA          | 0.667          | 40.50           | 75.00        | 115.50       |
| 4"                                      | EA          | 0.800          | 56.00           | 90.00        | 146.00       |
| Slip coupling                           |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 10.25           | 56.00        | 66.25        |
| 2"                                      | EA          | 0.533          | 12.25           | 60.00        | 72.25        |
| 3"                                      | EA          | 0.667          | 22.25           | 75.00        | 97.25        |
| 90 ells                                 |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 18.75           | 56.00        | 74.75        |
| 1-1/2" x 1-1/4"                         | EA          | 0.500          | 52.00           | 56.00        | 108.00       |
| 2"                                      | EA          | 0.533          | 34.25           | 60.00        | 94.25        |
| 2" x 1-1/2"                             | EA          | 0.533          | 69.00           | 60.00        | 129.00       |
| 3"                                      | EA          | 0.667          | 91.00           | 75.00        | 166.00       |
| 4"                                      | EA          | 0.800          | 300.00          | 90.00        | 390.00       |
| Street, 90 elbows                       |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 16.00           | 56.00        | 72.00        |
| 2"                                      | EA          | 0.533          | 35.00           | 60.00        | 95.00        |
| 3"                                      | EA          | 0.667          | 89.00           | 75.00        | 164.00       |
| 4"                                      | EA          | 0.800          | 220.00          | 90.00        | 310.00       |
| Female, 90 elbows                       |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 15.75           | 56.00        | 71.75        |
| 2"                                      | EA          | 0.533          | 30.50           | 60.00        | 90.50        |
| Male, 90 elbows                         |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 28.00           | 56.00        | 84.00        |
| 2"                                      | EA          | 0.533          | 57.00           | 60.00        | 117.00       |
| 90 with side inlet                      |             |                |                 |              |              |
| 3" x 3" x 1"                            | EA          | 0.667          | 130.00          | 75.00        | 205.00       |
| 3" x 3" x 1-1/2"                        | EA          | 0.667          | 130.00          | 75.00        | 205.00       |
| 3" x 3" x 2"                            | EA          | 0.667          | 130.00          | 75.00        | 205.00       |
| 45 ells                                 |             |                |                 |              |              |
| 1-1/4"                                  | EA          | 0.471          | 10.50           | 53.00        | 63.50        |
| 1-1/2"                                  | EA          | 0.500          | 8.61            | 56.00        | 64.61        |
| 2"                                      | EA          | 0.533          | 19.75           | 60.00        | 79.75        |
| 3"                                      | EA          | 0.667          | 42.00           | 75.00        | 117.00       |
| 4"                                      | EA          | 0.800          | 190.00          | 90.00        | 280.00       |
| Street, 45 ell                          |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 13.75           | 56.00        | 69.75        |
| 2"                                      | EA          | 0.533          | 24.75           | 60.00        | 84.75        |
| 3"                                      | EA          | 0.667          | 71.00           | 75.00        | 146.00       |
| 60 ell                                  |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 21.50           | 56.00        | 77.50        |
| 2"                                      | EA          | 0.533          | 40.00           | 60.00        | 100.00       |

## DIVISION 22 PLUMBING

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.62 COPPER FITTINGS (Cont.)</b> |             |                |                 |              |              |
| 60 ell                                  |             |                |                 |              |              |
| 3" .....                                | EA          | 0.667          | 89.00           | 75.00        | 164.00       |
| 22-1/2 ell                              |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 26.25           | 56.00        | 82.25        |
| 2" .....                                | EA          | 0.533          | 33.75           | 60.00        | 93.75        |
| 3" .....                                | EA          | 0.667          | 59.00           | 75.00        | 134.00       |
| 11-1/4 ell                              |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 29.00           | 56.00        | 85.00        |
| 2" .....                                | EA          | 0.533          | 41.00           | 60.00        | 101.00       |
| 3" .....                                | EA          | 0.667          | 82.00           | 75.00        | 157.00       |
| Wye                                     |             |                |                 |              |              |
| 1-1/4" .....                            | EA          | 0.471          | 44.25           | 53.00        | 97.25        |
| 1-1/2" .....                            | EA          | 0.500          | 48.25           | 56.00        | 104.25       |
| 2" .....                                | EA          | 0.533          | 63.00           | 60.00        | 123.00       |
| 2" x 1-1/2" x 1-1/2" .....              | EA          | 0.533          | 70.00           | 60.00        | 130.00       |
| 2" x 1-1/2" x 2" .....                  | EA          | 0.533          | 77.00           | 60.00        | 137.00       |
| 2" x 1-1/2" x 2-1/2" .....              | EA          | 0.533          | 77.00           | 60.00        | 137.00       |
| 3" .....                                | EA          | 0.667          | 150.00          | 75.00        | 225.00       |
| 3" x 3" x 1-1/2" .....                  | EA          | 0.667          | 140.00          | 75.00        | 215.00       |
| 3" x 3" x 2" .....                      | EA          | 0.667          | 140.00          | 75.00        | 215.00       |
| 4" .....                                | EA          | 0.800          | 310.00          | 90.00        | 400.00       |
| 4" x 4" x 2" .....                      | EA          | 0.800          | 220.00          | 90.00        | 310.00       |
| 4" x 4" x 3" .....                      | EA          | 0.800          | 220.00          | 90.00        | 310.00       |
| Sanitary tee                            |             |                |                 |              |              |
| 1-1/4" .....                            | EA          | 0.471          | 22.50           | 53.00        | 75.50        |
| 1-1/2" .....                            | EA          | 0.500          | 27.75           | 56.00        | 83.75        |
| 2" .....                                | EA          | 0.533          | 32.50           | 60.00        | 92.50        |
| 2" x 1-1/2" x 1-1/2" .....              | EA          | 0.533          | 52.00           | 60.00        | 112.00       |
| 2" x 1-1/2" x 2" .....                  | EA          | 0.533          | 53.00           | 60.00        | 113.00       |
| 2" x 2" x 1-1/2" .....                  | EA          | 0.533          | 30.75           | 60.00        | 90.75        |
| 3" .....                                | EA          | 0.667          | 120.00          | 75.00        | 195.00       |
| 3" x 3" x 1-1/2" .....                  | EA          | 0.667          | 93.00           | 75.00        | 168.00       |
| 3" x 3" x 2" .....                      | EA          | 0.667          | 93.00           | 75.00        | 168.00       |
| 4" .....                                | EA          | 0.800          | 310.00          | 90.00        | 400.00       |
| 4" x 4" x 3" .....                      | EA          | 0.800          | 250.00          | 90.00        | 340.00       |
| Female sanitary tee                     |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 54.00           | 56.00        | 110.00       |
| Long turn tee                           |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 54.00           | 56.00        | 110.00       |
| 2" .....                                | EA          | 0.533          | 120.00          | 60.00        | 180.00       |
| 3" x 1-1/2" .....                       | EA          | 0.667          | 150.00          | 75.00        | 225.00       |
| Double wye                              |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 79.00           | 56.00        | 135.00       |
| 2" .....                                | EA          | 0.533          | 140.00          | 60.00        | 200.00       |
| 2" x 2" x 1-1/2" x 1-1/2" .....         | EA          | 0.533          | 110.00          | 60.00        | 170.00       |
| 3" .....                                | EA          | 0.667          | 230.00          | 75.00        | 305.00       |
| 3" x 3" x 1-1/2" x 1-1/2" .....         | EA          | 0.667          | 230.00          | 75.00        | 305.00       |
| 3" x 3" x 2" x 2" .....                 | EA          | 0.667          | 230.00          | 75.00        | 305.00       |
| 4" x 4" x 1-1/2" x 1-1/2" .....         | EA          | 0.800          | 240.00          | 90.00        | 330.00       |
| Double sanitary tee                     |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 41.00           | 56.00        | 97.00        |
| 2" .....                                | EA          | 0.533          | 94.00           | 60.00        | 154.00       |
| 2" x 2" x 1-1/2" .....                  | EA          | 0.533          | 84.00           | 60.00        | 144.00       |
| 3" .....                                | EA          | 0.667          | 110.00          | 75.00        | 185.00       |
| 3" x 3" x 1-1/2" x 1-1/2" .....         | EA          | 0.667          | 140.00          | 75.00        | 215.00       |
| 3" x 3" x 2" x 2" .....                 | EA          | 0.667          | 120.00          | 75.00        | 195.00       |
| 4" x 4" x 1-1/2" x 1-1/2" .....         | EA          | 0.800          | 250.00          | 90.00        | 340.00       |
| Long                                    |             |                |                 |              |              |
| 2" x 1-1/2" .....                       | EA          | 0.533          | 140.00          | 60.00        | 200.00       |
| Twin elbow                              |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 71.00           | 56.00        | 127.00       |
| 2" .....                                | EA          | 0.533          | 110.00          | 60.00        | 170.00       |
| 2" x 1-1/2" x 1-1/2" .....              | EA          | 0.533          | 99.00           | 60.00        | 159.00       |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.62 COPPER FITTINGS (Cont.)</b> |             |                |                 |              |              |
| DWV fittings, coupling with stop        |             |                |                 |              |              |
| Spigot adapter, manoff                  |             |                |                 |              |              |
| 1-1/2" x 2"                             | EA          | 0.500          | 47.00           | 56.00        | 103.00       |
| 1-1/2" x 3"                             | EA          | 0.500          | 57.00           | 56.00        | 113.00       |
| 2"                                      | EA          | 0.533          | 23.25           | 60.00        | 83.25        |
| 2" x 3"                                 | EA          | 0.533          | 55.00           | 60.00        | 115.00       |
| 2" x 4"                                 | EA          | 0.533          | 78.00           | 60.00        | 138.00       |
| 3"                                      | EA          | 0.667          | 80.00           | 75.00        | 155.00       |
| 3" x 4"                                 | EA          | 0.667          | 150.00          | 75.00        | 225.00       |
| 4"                                      | EA          | 0.800          | 120.00          | 90.00        | 210.00       |
| No-hub adapters                         |             |                |                 |              |              |
| 1-1/2" x 2"                             | EA          | 0.500          | 28.50           | 56.00        | 84.50        |
| 2"                                      | EA          | 0.533          | 26.75           | 60.00        | 86.75        |
| 2" x 3"                                 | EA          | 0.533          | 62.00           | 60.00        | 122.00       |
| 3"                                      | EA          | 0.667          | 54.00           | 75.00        | 129.00       |
| 3" x 4"                                 | EA          | 0.667          | 110.00          | 75.00        | 185.00       |
| 4"                                      | EA          | 0.800          | 120.00          | 90.00        | 210.00       |
| Fitting reducers                        |             |                |                 |              |              |
| 1-1/2" x 1-1/4"                         | EA          | 0.500          | 10.00           | 56.00        | 66.00        |
| 2" x 1-1/2"                             | EA          | 0.533          | 15.75           | 60.00        | 75.75        |
| 3" x 1-1/2"                             | EA          | 0.667          | 44.25           | 75.00        | 119.25       |
| 3" x 2"                                 | EA          | 0.667          | 39.50           | 75.00        | 114.50       |
| Slip joint (Desanco)                    |             |                |                 |              |              |
| 1-1/4"                                  | EA          | 0.471          | 17.00           | 53.00        | 70.00        |
| 1-1/2"                                  | EA          | 0.500          | 17.50           | 56.00        | 73.50        |
| 1-1/2" x 1-1/4"                         | EA          | 0.500          | 18.25           | 56.00        | 74.25        |
| Street x slip joint (Desanco)           |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 21.75           | 56.00        | 77.75        |
| 1-1/2" x 1-1/4"                         | EA          | 0.500          | 23.25           | 56.00        | 79.25        |
| Flush bushing                           |             |                |                 |              |              |
| 1-1/2" x 1-1/4"                         | EA          | 0.500          | 12.50           | 56.00        | 68.50        |
| 2" x 1-1/2"                             | EA          | 0.533          | 21.50           | 60.00        | 81.50        |
| 3" x 1-1/2"                             | EA          | 0.667          | 38.50           | 75.00        | 113.50       |
| 3" x 2"                                 | EA          | 0.667          | 38.50           | 75.00        | 113.50       |
| Male hex trap bushing                   |             |                |                 |              |              |
| 1-1/4" x 1-1/2"                         | EA          | 0.471          | 18.25           | 53.00        | 71.25        |
| 1-1/2"                                  | EA          | 0.500          | 13.50           | 56.00        | 69.50        |
| 1-1/2" x 2"                             | EA          | 0.500          | 20.25           | 56.00        | 76.25        |
| 2"                                      | EA          | 0.533          | 15.75           | 60.00        | 75.75        |
| Round trap bushing                      |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 15.50           | 56.00        | 71.50        |
| 2"                                      | EA          | 0.533          | 16.50           | 60.00        | 76.50        |
| Female adapter                          |             |                |                 |              |              |
| 1-1/4"                                  | EA          | 0.471          | 16.25           | 53.00        | 69.25        |
| 1-1/2"                                  | EA          | 0.500          | 25.50           | 56.00        | 81.50        |
| 1-1/2" x 2"                             | EA          | 0.500          | 65.00           | 56.00        | 121.00       |
| 2"                                      | EA          | 0.533          | 34.50           | 60.00        | 94.50        |
| 2" x 1-1/2"                             | EA          | 0.533          | 56.00           | 60.00        | 116.00       |
| 3"                                      | EA          | 0.667          | 140.00          | 75.00        | 215.00       |
| Fitting x female adapter                |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 34.25           | 56.00        | 90.25        |
| 2"                                      | EA          | 0.533          | 45.50           | 60.00        | 105.50       |
| Male adapters                           |             |                |                 |              |              |
| 1-1/4"                                  | EA          | 0.471          | 14.25           | 53.00        | 67.25        |
| 1-1/4" x 1-1/2"                         | EA          | 0.471          | 33.00           | 53.00        | 86.00        |
| 1-1/2"                                  | EA          | 0.500          | 16.25           | 56.00        | 72.25        |
| 1-1/2" x 2"                             | EA          | 0.500          | 62.00           | 56.00        | 118.00       |
| 2"                                      | EA          | 0.533          | 27.50           | 60.00        | 87.50        |
| 2" x 1-1/2"                             | EA          | 0.533          | 64.00           | 60.00        | 124.00       |
| 3"                                      | EA          | 0.667          | 140.00          | 75.00        | 215.00       |
| Male x slip joint adapters              |             |                |                 |              |              |
| 1-1/2" x 1-1/4"                         | EA          | 0.500          | 26.00           | 56.00        | 82.00        |
| Dandy cleanout                          |             |                |                 |              |              |
| 1-1/2"                                  | EA          | 0.500          | 45.75           | 56.00        | 101.75       |
| 2"                                      | EA          | 0.533          | 54.00           | 60.00        | 114.00       |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.62 COPPER FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Dandy cleanout                          |             |                |                 |              |              |
| 3" .....                                | EA          | 0.667          | 190.00          | 75.00        | 265.00       |
| End cleanout, flush pattern             |             |                |                 |              |              |
| 1-1/2" x 1" .....                       | EA          | 0.500          | 27.75           | 56.00        | 83.75        |
| 2" x 1-1/2" .....                       | EA          | 0.533          | 33.50           | 60.00        | 93.50        |
| 3" x 2-1/2" .....                       | EA          | 0.667          | 71.00           | 75.00        | 146.00       |
| Copper caps                             |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 9.47            | 56.00        | 65.47        |
| 2" .....                                | EA          | 0.533          | 17.50           | 60.00        | 77.50        |
| Closet flanges                          |             |                |                 |              |              |
| 3" .....                                | EA          | 0.667          | 41.50           | 75.00        | 116.50       |
| 4" .....                                | EA          | 0.800          | 73.00           | 90.00        | 163.00       |
| Drum traps, with cleanout               |             |                |                 |              |              |
| 1-1/2" x 3" x 6" .....                  | EA          | 0.500          | 160.00          | 56.00        | 216.00       |
| P-trap, swivel, with cleanout           |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 98.00           | 56.00        | 154.00       |
| P-trap, solder union                    |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 41.00           | 56.00        | 97.00        |
| 2" .....                                | EA          | 0.533          | 72.00           | 60.00        | 132.00       |
| With cleanout                           |             |                |                 |              |              |
| 1-1/2" .....                            | EA          | 0.500          | 45.00           | 56.00        | 101.00       |
| 2" .....                                | EA          | 0.533          | 80.00           | 60.00        | 140.00       |
| 2" x 1-1/2" .....                       | EA          | 0.533          | 80.00           | 60.00        | 140.00       |
| Swivel joint, with cleanout             |             |                |                 |              |              |
| 1-1/2" x 1-1/4" .....                   | EA          | 0.500          | 57.00           | 56.00        | 113.00       |
| 1-1/2" .....                            | EA          | 0.500          | 74.00           | 56.00        | 130.00       |
| 2" x 1-1/2" .....                       | EA          | 0.533          | 90.00           | 60.00        | 150.00       |
| Estabrook TY, with inlets               |             |                |                 |              |              |
| 3", with 1-1/2" inlet .....             | EA          | 0.667          | 140.00          | 75.00        | 215.00       |
| Fine thread adapters                    |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.400          | 3.67            | 44.75        | 48.42        |
| 1/2" x 1/2" IPS .....                   | EA          | 0.400          | 4.13            | 44.75        | 48.88        |
| 1/2" x 3/4" IPS .....                   | EA          | 0.400          | 6.76            | 44.75        | 51.51        |
| 1/2" x male .....                       | EA          | 0.400          | 2.55            | 44.75        | 47.30        |
| 1/2" x female .....                     | EA          | 0.400          | 5.21            | 44.75        | 49.96        |
| Copper pipe fittings                    |             |                |                 |              |              |
| 1/2"                                    |             |                |                 |              |              |
| 90 deg ell .....                        | EA          | 0.178          | 1.62            | 20.00        | 21.62        |
| 45 deg ell .....                        | EA          | 0.178          | 2.04            | 20.00        | 22.04        |
| Tee .....                               | EA          | 0.229          | 2.71            | 25.50        | 28.21        |
| Cap .....                               | EA          | 0.089          | 1.10            | 9.96         | 11.06        |
| Coupling .....                          | EA          | 0.178          | 1.18            | 20.00        | 21.18        |
| Union .....                             | EA          | 0.200          | 8.21            | 22.50        | 30.71        |
| 3/4"                                    |             |                |                 |              |              |
| 90 deg ell .....                        | EA          | 0.200          | 3.54            | 22.50        | 26.04        |
| 45 deg ell .....                        | EA          | 0.200          | 4.13            | 22.50        | 26.63        |
| Tee .....                               | EA          | 0.267          | 5.92            | 30.00        | 35.92        |
| Cap .....                               | EA          | 0.094          | 2.15            | 10.50        | 12.65        |
| Coupling .....                          | EA          | 0.200          | 2.40            | 22.50        | 24.90        |
| Union .....                             | EA          | 0.229          | 12.00           | 25.50        | 37.50        |
| 1"                                      |             |                |                 |              |              |
| 90 deg ell .....                        | EA          | 0.267          | 8.21            | 30.00        | 38.21        |
| 45 deg ell .....                        | EA          | 0.267          | 10.75           | 30.00        | 40.75        |
| Tee .....                               | EA          | 0.320          | 13.50           | 35.75        | 49.25        |
| Cap .....                               | EA          | 0.133          | 4.00            | 15.00        | 19.00        |
| Coupling .....                          | EA          | 0.267          | 5.92            | 30.00        | 35.92        |
| Union .....                             | EA          | 0.267          | 15.75           | 30.00        | 45.75        |

## **22111.64 BRASS I.P.S. FITTINGS**

### BRASS I.P.S. FITTINGS

Fittings, iron pipe size, 45 deg ell

|            |    |       |      |       |       |
|------------|----|-------|------|-------|-------|
| 1/8" ..... | EA | 0.320 | 5.11 | 35.75 | 40.86 |
| 1/4" ..... | EA | 0.320 | 4.64 | 35.75 | 40.39 |
| 3/8" ..... | EA | 0.364 | 5.12 | 40.75 | 45.87 |
| 1/2" ..... | EA | 0.400 | 5.91 | 44.75 | 50.66 |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.64 BRASS I.P.S. FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Fittings, iron pipe size, 45 deg ell          |             |                |                 |              |              |
| 3/4"  | EA          | 0.421          | 9.29            | 47.25        | 56.54        |
| 1"  | EA          | 0.444          | 15.50           | 49.75        | 65.25        |
| 90 deg ell                                    |             |                |                 |              |              |
| 1/8"  | EA          | 0.320          | 5.25            | 35.75        | 41.00        |
| 1/4"  | EA          | 0.320          | 5.34            | 35.75        | 41.09        |
| 3/8"  | EA          | 0.364          | 5.34            | 40.75        | 46.09        |
| 1/2"  | EA          | 0.400          | 5.34            | 44.75        | 50.09        |
| 3/4"  | EA          | 0.421          | 11.25           | 47.25        | 58.50        |
| 1"  | EA          | 0.444          | 17.25           | 49.75        | 67.00        |
| 90 deg ell, reducing                          |             |                |                 |              |              |
| 1/4" x 1/8"                                   | EA          | 0.320          | 19.50           | 35.75        | 55.25        |
| 3/8" x 1/8"                                   | EA          | 0.364          | 19.50           | 40.75        | 60.25        |
| 3/8" x 1/4"                                   | EA          | 0.364          | 21.50           | 40.75        | 62.25        |
| 1/2" x 1/4"                                   | EA          | 0.400          | 17.50           | 44.75        | 62.25        |
| 1/2" x 3/8"                                   | EA          | 0.400          | 16.00           | 44.75        | 60.75        |
| 3/4" x 1/2"                                   | EA          | 0.421          | 21.75           | 47.25        | 69.00        |
| 1" x 3/8"                                     | EA          | 0.444          | 110.00          | 49.75        | 159.75       |
| 1" x 1/2"                                     | EA          | 0.444          | 38.25           | 49.75        | 88.00        |
| 1" x 3/4"                                     | EA          | 0.444          | 38.25           | 49.75        | 88.00        |
| Street ell, 45 deg                            |             |                |                 |              |              |
| 1/2"  | EA          | 0.400          | 9.90            | 44.75        | 54.65        |
| 3/4"  | EA          | 0.421          | 14.00           | 47.25        | 61.25        |
| 90 deg  |             |                |                 |              |              |
| 1/8"  | EA          | 0.320          | 7.97            | 35.75        | 43.72        |
| 1/4"  | EA          | 0.320          | 7.97            | 35.75        | 43.72        |
| 3/8"  | EA          | 0.364          | 7.97            | 40.75        | 48.72        |
| 1/2"  | EA          | 0.400          | 7.97            | 44.75        | 52.72        |
| 3/4"  | EA          | 0.421          | 14.00           | 47.25        | 61.25        |
| 1"  | EA          | 0.444          | 23.25           | 49.75        | 73.00        |
| Tee, 1/8"                                     |             |                |                 |              |              |
| 1/4"  | EA          | 0.320          | 7.28            | 35.75        | 43.03        |
| 3/8"  | EA          | 0.364          | 7.28            | 40.75        | 48.03        |
| 1/2"  | EA          | 0.400          | 7.28            | 44.75        | 52.03        |
| 3/4"  | EA          | 0.421          | 13.25           | 47.25        | 60.50        |
| 1"  | EA          | 0.444          | 23.50           | 49.75        | 73.25        |
| Tee, reducing, 3/8" x                         |             |                |                 |              |              |
| 1/4"  | EA          | 0.364          | 22.50           | 40.75        | 63.25        |
| 1/2"  | EA          | 0.364          | 11.00           | 40.75        | 51.75        |
| 1/2" x  |             |                |                 |              |              |
| 1/4"  | EA          | 0.400          | 11.00           | 44.75        | 55.75        |
| 3/8"  | EA          | 0.400          | 11.00           | 44.75        | 55.75        |
| 3/4"  | EA          | 0.400          | 15.00           | 44.75        | 59.75        |
| 3/4" x  |             |                |                 |              |              |
| 1/4"  | EA          | 0.421          | 17.25           | 47.25        | 64.50        |
| 1/2"  | EA          | 0.421          | 17.25           | 47.25        | 64.50        |
| 1"  | EA          | 0.421          | 31.00           | 47.25        | 78.25        |
| 1" x  |             |                |                 |              |              |
| 1/2"  | EA          | 0.444          | 58.00           | 49.75        | 107.75       |
| 3/4"  | EA          | 0.444          | 58.00           | 49.75        | 107.75       |
| Tee, reducing                                 |             |                |                 |              |              |
| 1/2" x 3/8" x 1/2"                            | EA          | 0.400          | 11.50           | 44.75        | 56.25        |
| 3/4" x 1/2" x 1/2"                            | EA          | 0.421          | 11.50           | 47.25        | 58.75        |
| 3/4" x 1/2" x 3/4"                            | EA          | 0.421          | 13.00           | 47.25        | 60.25        |
| 1" x 1/2" x 1/2"                              | EA          | 0.444          | 56.00           | 49.75        | 105.75       |
| 1" x 1/2" x 3/4"                              | EA          | 0.444          | 56.00           | 49.75        | 105.75       |
| 1" x 3/4" x 1/2"                              | EA          | 0.444          | 53.00           | 49.75        | 102.75       |
| 1" x 3/4" x 3/4"                              | EA          | 0.444          | 21.50           | 49.75        | 71.25        |
| Union   |             |                |                 |              |              |
| 1/8"  | EA          | 0.320          | 21.00           | 35.75        | 56.75        |
| 1/4"  | EA          | 0.320          | 21.00           | 35.75        | 56.75        |
| 3/8"  | EA          | 0.364          | 21.00           | 40.75        | 61.75        |
| 1/2"  | EA          | 0.400          | 21.00           | 44.75        | 65.75        |
| 3/4"  | EA          | 0.421          | 30.25           | 47.25        | 77.50        |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.64 BRASS I.P.S. FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Union   |             |                |                 |              |              |
| 1" .....                                      | EA          | 0.444          | 40.00           | 49.75        | 89.75        |
| Brass face bushing                            |             |                |                 |              |              |
| 3/8" x 1/4" .....                             | EA          | 0.364          | 12.50           | 40.75        | 53.25        |
| 1/2" x 3/8" .....                             | EA          | 0.400          | 12.50           | 44.75        | 57.25        |
| 3/4" x 1/2" .....                             | EA          | 0.421          | 15.75           | 47.25        | 63.00        |
| 1" x 3/4" .....                               | EA          | 0.444          | 34.25           | 49.75        | 84.00        |
| Hex bushing, 1/4" x 1/8"                      |             |                |                 |              |              |
| 1/2" x  |             |                |                 |              |              |
| 1/4" .....                                    | EA          | 0.400          | 4.40            | 44.75        | 49.15        |
| 3/8" .....                                    | EA          | 0.400          | 4.40            | 44.75        | 49.15        |
| 5/8" x  |             |                |                 |              |              |
| 1/8" .....                                    | EA          | 0.400          | 8.14            | 44.75        | 52.89        |
| 1/4" .....                                    | EA          | 0.400          | 8.14            | 44.75        | 52.89        |
| 3/4" x  |             |                |                 |              |              |
| 1/8" .....                                    | EA          | 0.421          | 7.22            | 47.25        | 54.47        |
| 1/4" .....                                    | EA          | 0.421          | 7.22            | 47.25        | 54.47        |
| 3/8" .....                                    | EA          | 0.421          | 5.91            | 47.25        | 53.16        |
| 1/2" .....                                    | EA          | 0.421          | 5.91            | 47.25        | 53.16        |
| 1" x  |             |                |                 |              |              |
| 1/4" .....                                    | EA          | 0.444          | 11.25           | 49.75        | 61.00        |
| 3/8" .....                                    | EA          | 0.444          | 11.25           | 49.75        | 61.00        |
| 1/2" .....                                    | EA          | 0.444          | 9.21            | 49.75        | 58.96        |
| 3/4" .....                                    | EA          | 0.444          | 9.21            | 49.75        | 58.96        |
| Caps  |             |                |                 |              |              |
| 1/8" .....                                    | EA          | 0.320          | 4.73            | 35.75        | 40.48        |
| 1/4" .....                                    | EA          | 0.320          | 5.24            | 35.75        | 40.99        |
| 3/8" .....                                    | EA          | 0.364          | 5.50            | 40.75        | 46.25        |
| 1/2" .....                                    | EA          | 0.400          | 5.02            | 44.75        | 49.77        |
| 3/4" .....                                    | EA          | 0.421          | 7.90            | 47.25        | 55.15        |
| 1" .....                                      | EA          | 0.444          | 14.25           | 49.75        | 64.00        |
| Couplings                                     |             |                |                 |              |              |
| 1/8" .....                                    | EA          | 0.320          | 7.17            | 35.75        | 42.92        |
| 1/4" .....                                    | EA          | 0.320          | 7.17            | 35.75        | 42.92        |
| 3/8" .....                                    | EA          | 0.364          | 7.17            | 40.75        | 47.92        |
| 1/2" .....                                    | EA          | 0.400          | 6.29            | 44.75        | 51.04        |
| 3/4" .....                                    | EA          | 0.421          | 9.01            | 47.25        | 56.26        |
| 1" .....                                      | EA          | 0.444          | 12.75           | 49.75        | 62.50        |
| Couplings, reducing, 1/4" x 1/8"              |             |                |                 |              |              |
| 3/8" x  |             |                |                 |              |              |
| 1/8" .....                                    | EA          | 0.364          | 23.50           | 40.75        | 64.25        |
| 1/4" .....                                    | EA          | 0.364          | 7.69            | 40.75        | 48.44        |
| 1/2" x  |             |                |                 |              |              |
| 1/8" .....                                    | EA          | 0.400          | 25.00           | 44.75        | 69.75        |
| 1/4" .....                                    | EA          | 0.400          | 6.72            | 44.75        | 51.47        |
| 3/8" .....                                    | EA          | 0.400          | 6.72            | 44.75        | 51.47        |
| 3/4" x  |             |                |                 |              |              |
| 1/4" .....                                    | EA          | 0.421          | 11.25           | 47.25        | 58.50        |
| 3/8" .....                                    | EA          | 0.421          | 10.00           | 47.25        | 57.25        |
| 1/2" .....                                    | EA          | 0.421          | 9.98            | 47.25        | 57.23        |
| 1" x  |             |                |                 |              |              |
| 1/2" .....                                    | EA          | 0.421          | 16.50           | 47.25        | 63.75        |
| 3/4" .....                                    | EA          | 0.421          | 16.50           | 47.25        | 63.75        |
| Square head plug, solid                       |             |                |                 |              |              |
| 1/8" .....                                    | EA          | 0.320          | 6.08            | 35.75        | 41.83        |
| 1/4" .....                                    | EA          | 0.320          | 6.08            | 35.75        | 41.83        |
| 3/8" .....                                    | EA          | 0.364          | 6.08            | 40.75        | 46.83        |
| 1/2" .....                                    | EA          | 0.400          | 6.30            | 44.75        | 51.05        |
| 3/4" .....                                    | EA          | 0.421          | 7.23            | 47.25        | 54.48        |
| Cored   |             |                |                 |              |              |
| 1/2" .....                                    | EA          | 0.400          | 3.77            | 44.75        | 48.52        |
| 3/4" .....                                    | EA          | 0.421          | 4.32            | 47.25        | 51.57        |
| 1" .....                                      | EA          | 0.444          | 16.00           | 49.75        | 65.75        |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.64 BRASS I.P.S. FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Square head plug, solid                       |             |                |                 |              |              |
| Countersunk                                   |             |                |                 |              |              |
| 1/2"  | EA          | 0.400          | 9.68            | 44.75        | 54.43        |
| 3/4"  | EA          | 0.421          | 15.50           | 47.25        | 62.75        |
| Locknut                                       |             |                |                 |              |              |
| 3/4"  | EA          | 0.421          | 7.11            | 47.25        | 54.36        |
| 1"  | EA          | 0.444          | 8.87            | 49.75        | 58.62        |
| Close standard red nipple, 1/8"               |             |                |                 |              |              |
| 1/8" x  |             |                |                 |              |              |
| 1-1/2"  | EA          | 0.320          | 1.43            | 35.75        | 37.18        |
| 2"  | EA          | 0.320          | 1.56            | 35.75        | 37.31        |
| 2-1/2"  | EA          | 0.320          | 1.81            | 35.75        | 37.56        |
| 3"  | EA          | 0.320          | 1.91            | 35.75        | 37.66        |
| 3-1/2"  | EA          | 0.320          | 2.11            | 35.75        | 37.86        |
| 4"  | EA          | 0.320          | 2.38            | 35.75        | 38.13        |
| 4-1/2"  | EA          | 0.320          | 2.42            | 35.75        | 38.17        |
| 5"  | EA          | 0.320          | 2.81            | 35.75        | 38.56        |
| 5-1/2"  | EA          | 0.320          | 3.02            | 35.75        | 38.77        |
| 6"  | EA          | 0.320          | 3.31            | 35.75        | 39.06        |
| 1/4" x close                                  |             |                |                 |              |              |
| 1/4" x  |             |                |                 |              |              |
| 1-1/2"  | EA          | 0.320          | 6.30            | 35.75        | 42.05        |
| 2"  | EA          | 0.320          | 6.68            | 35.75        | 42.43        |
| 2-1/2"  | EA          | 0.320          | 6.98            | 35.75        | 42.73        |
| 3"  | EA          | 0.320          | 7.32            | 35.75        | 43.07        |
| 3-1/2"  | EA          | 0.320          | 8.17            | 35.75        | 43.92        |
| 4"  | EA          | 0.320          | 8.50            | 35.75        | 44.25        |
| 4-1/2"  | EA          | 0.320          | 9.07            | 35.75        | 44.82        |
| 5"  | EA          | 0.320          | 9.35            | 35.75        | 45.10        |
| 5-1/2"  | EA          | 0.320          | 10.25           | 35.75        | 46.00        |
| 6"  | EA          | 0.320          | 10.50           | 35.75        | 46.25        |
| 3/8" x close                                  |             |                |                 |              |              |
| 3/8" x  |             |                |                 |              |              |
| 1-1/2"  | EA          | 0.364          | 4.98            | 40.75        | 45.73        |
| 2"  | EA          | 0.364          | 5.48            | 40.75        | 46.23        |
| 2-1/2"  | EA          | 0.364          | 6.60            | 40.75        | 47.35        |
| 3"  | EA          | 0.364          | 8.04            | 40.75        | 48.79        |
| 3-1/2"  | EA          | 0.364          | 8.79            | 40.75        | 49.54        |
| 4"  | EA          | 0.364          | 11.25           | 40.75        | 52.00        |
| 4-1/2"  | EA          | 0.364          | 11.50           | 40.75        | 52.25        |
| 5"  | EA          | 0.364          | 12.25           | 40.75        | 53.00        |
| 5-1/2"  | EA          | 0.364          | 13.25           | 40.75        | 54.00        |
| 6"  | EA          | 0.364          | 14.75           | 40.75        | 55.50        |
| 1/2" x close                                  |             |                |                 |              |              |
| 1/2" x  |             |                |                 |              |              |
| 1-1/2"  | EA          | 0.400          | 6.99            | 44.75        | 51.74        |
| 2"  | EA          | 0.400          | 8.51            | 44.75        | 53.26        |
| 2-1/2"  | EA          | 0.400          | 12.50           | 44.75        | 57.25        |
| 3"  | EA          | 0.400          | 11.00           | 44.75        | 55.75        |
| 3-1/2"  | EA          | 0.400          | 12.25           | 44.75        | 57.00        |
| 4"  | EA          | 0.400          | 12.75           | 44.75        | 57.50        |
| 4-1/2"  | EA          | 0.400          | 13.75           | 44.75        | 58.50        |
| 5"  | EA          | 0.400          | 14.25           | 44.75        | 59.00        |
| 5-1/2"  | EA          | 0.400          | 17.25           | 44.75        | 62.00        |
| 6"  | EA          | 0.400          | 16.00           | 44.75        | 60.75        |
| 7-1/2"  | EA          | 0.400          | 48.50           | 44.75        | 93.25        |
| 8"  | EA          | 0.400          | 48.50           | 44.75        | 93.25        |
| 3/4" x close                                  |             |                |                 |              |              |
| 3/4" x  |             |                |                 |              |              |
| 1-1/2"  | EA          | 0.421          | 10.50           | 47.25        | 57.75        |
| 2"  | EA          | 0.421          | 11.00           | 47.25        | 58.25        |
| 2-1/2"  | EA          | 0.421          | 12.25           | 47.25        | 59.50        |
| 3"  | EA          | 0.421          | 13.25           | 47.25        | 60.50        |
| 3-1/2"  | EA          | 0.421          | 14.50           | 47.25        | 61.75        |

## DIVISION 22 PLUMBING

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>22111.64 BRASS I.P.S. FITTINGS (Cont.)</u></b> |             |                |                 |              |              |
| Close standard red nipple, 1/8"                      |             |                |                 |              |              |
| 4" .....   | EA          | 0.421          | 15.50           | 47.25        | 62.75        |
| 4-1/2" .....   | EA          | 0.421          | 16.50           | 47.25        | 63.75        |
| 5" .....   | EA          | 0.421          | 17.25           | 47.25        | 64.50        |
| 5-1/2" .....   | EA          | 0.421          | 19.50           | 47.25        | 66.75        |
| 6" .....   | EA          | 0.421          | 20.25           | 47.25        | 67.50        |
| 1" x close .....                                     | EA          | 0.444          | 17.50           | 49.75        | 67.25        |
| 1" x   |             |                |                 |              |              |
| 2" .....   | EA          | 0.444          | 20.00           | 49.75        | 69.75        |
| 2-1/2" .....   | EA          | 0.444          | 20.25           | 49.75        | 70.00        |
| 3" .....   | EA          | 0.444          | 21.00           | 49.75        | 70.75        |
| 3-1/2" .....   | EA          | 0.444          | 20.00           | 49.75        | 69.75        |
| 4" .....   | EA          | 0.444          | 21.50           | 49.75        | 71.25        |
| 4-1/2" .....   | EA          | 0.444          | 30.00           | 49.75        | 79.75        |
| 5" .....   | EA          | 0.444          | 30.25           | 49.75        | 80.00        |
| 5-1/2" .....   | EA          | 0.444          | 30.25           | 49.75        | 80.00        |
| 6" .....   | EA          | 0.444          | 32.00           | 49.75        | 81.75        |
| <b><u>22111.65 BRASS FITTINGS</u></b>                |             |                |                 |              |              |
| BRASS FITTINGS                                       |             |                |                 |              |              |
| Compression fittings, union                          |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.133          | 2.85            | 15.00        | 17.85        |
| 1/2" .....   | EA          | 0.133          | 6.16            | 15.00        | 21.16        |
| 5/8" .....   | EA          | 0.133          | 7.84            | 15.00        | 22.84        |
| Union elbow  |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.133          | 9.14            | 15.00        | 24.14        |
| 1/2" .....   | EA          | 0.133          | 15.25           | 15.00        | 30.25        |
| 5/8" .....   | EA          | 0.133          | 20.50           | 15.00        | 35.50        |
| Union tee  |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.133          | 8.57            | 15.00        | 23.57        |
| 1/2" .....   | EA          | 0.133          | 12.50           | 15.00        | 27.50        |
| 5/8" .....   | EA          | 0.133          | 17.25           | 15.00        | 32.25        |
| Male connector                                       |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.133          | 5.76            | 15.00        | 20.76        |
| 1/2" .....   | EA          | 0.133          | 6.82            | 15.00        | 21.82        |
| 5/8" .....   | EA          | 0.133          | 3.56            | 15.00        | 18.56        |
| Female connector                                     |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.133          | 4.86            | 15.00        | 19.86        |
| 1/2" .....   | EA          | 0.133          | 6.58            | 15.00        | 21.58        |
| 5/8" .....   | EA          | 0.133          | 7.18            | 15.00        | 22.18        |
| Brass flare fittings, union                          |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.129          | 3.70            | 14.50        | 18.20        |
| 1/2" .....   | EA          | 0.129          | 5.11            | 14.50        | 19.61        |
| 5/8" .....   | EA          | 0.129          | 6.58            | 14.50        | 21.08        |
| 90 deg elbow union                                   |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.129          | 7.95            | 14.50        | 22.45        |
| 1/2" .....   | EA          | 0.129          | 11.75           | 14.50        | 26.25        |
| 5/8" .....   | EA          | 0.129          | 20.50           | 14.50        | 35.00        |
| Three way tee  |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.216          | 7.94            | 24.25        | 32.19        |
| 1/2" .....   | EA          | 0.216          | 8.21            | 24.25        | 32.46        |
| 5/8" .....   | EA          | 0.216          | 11.00           | 24.25        | 35.25        |
| Cross  |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.286          | 12.25           | 32.00        | 44.25        |
| 1/2" .....   | EA          | 0.286          | 24.75           | 32.00        | 56.75        |
| 5/8" .....   | EA          | 0.286          | 30.00           | 32.00        | 62.00        |
| Male connector, half union                           |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.129          | 2.83            | 14.50        | 17.33        |
| 1/2" .....   | EA          | 0.129          | 4.95            | 14.50        | 19.45        |
| 5/8" .....   | EA          | 0.129          | 7.66            | 14.50        | 22.16        |
| Female connector, half union                         |             |                |                 |              |              |
| 3/8" .....   | EA          | 0.129          | 3.88            | 14.50        | 18.38        |
| 1/2" .....   | EA          | 0.129          | 3.60            | 14.50        | 18.10        |
| 5/8" .....   | EA          | 0.129          | 6.91            | 14.50        | 21.41        |

## DIVISION 22 PLUMBING

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.65 BRASS FITTINGS (Cont.)</b> |             |                |                 |              |              |
| Brass flare fittings, union            |             |                |                 |              |              |
| Long forged nut                        |             |                |                 |              |              |
| 3/8"                                   | EA          | 0.129          | 1.85            | 14.50        | 16.35        |
| 1/2"                                   | EA          | 0.129          | 2.69            | 14.50        | 17.19        |
| 5/8"                                   | EA          | 0.129          | 9.30            | 14.50        | 23.80        |
| Short forged nut                       |             |                |                 |              |              |
| 3/8"                                   | EA          | 0.129          | 1.50            | 14.50        | 16.00        |
| 1/2"                                   | EA          | 0.129          | 2.04            | 14.50        | 16.54        |
| 5/8"                                   | EA          | 0.129          | 2.49            | 14.50        | 16.99        |
| Nut, material only                     |             |                |                 |              |              |
| 1/8"                                   | EA          |                |                 |              | 0.34         |
| 1/4"                                   | EA          |                |                 |              | 0.34         |
| 5/16"                                  | EA          |                |                 |              | 0.42         |
| 3/8"                                   | EA          |                |                 |              | 0.50         |
| 1/2"                                   | EA          |                |                 |              | 0.73         |
| 5/8"                                   | EA          |                |                 |              | 1.57         |
| Sleeve                                 |             |                |                 |              |              |
| 1/8"                                   | EA          | 0.160          | 0.26            | 18.00        | 18.26        |
| 1/4"                                   | EA          | 0.160          | 0.41            | 18.00        | 18.41        |
| 5/16"                                  | EA          | 0.160          | 0.24            | 18.00        | 18.24        |
| 3/8"                                   | EA          | 0.160          | 0.35            | 18.00        | 18.35        |
| 1/2"                                   | EA          | 0.160          | 0.42            | 18.00        | 18.42        |
| 5/8"                                   | EA          | 0.160          | 0.61            | 18.00        | 18.61        |
| Tee                                    |             |                |                 |              |              |
| 1/4"                                   | EA          | 0.229          | 5.00            | 25.50        | 30.50        |
| 5/16"                                  | EA          | 0.229          | 5.95            | 25.50        | 31.45        |
| Male tee                               |             |                |                 |              |              |
| 5/16" x 1/8"                           | EA          | 0.229          | 7.95            | 25.50        | 33.45        |
| Female union                           |             |                |                 |              |              |
| 1/8" x 1/8"                            | EA          | 0.200          | 2.02            | 22.50        | 24.52        |
| 1/4" x 3/8"                            | EA          | 0.200          | 3.69            | 22.50        | 26.19        |
| 3/8" x 1/4"                            | EA          | 0.200          | 3.40            | 22.50        | 25.90        |
| 3/8" x 1/2"                            | EA          | 0.200          | 3.85            | 22.50        | 26.35        |
| 5/8" x 1/2"                            | EA          | 0.229          | 6.01            | 25.50        | 31.51        |
| Male union, 1/4"                       |             |                |                 |              |              |
| 1/4" x 1/4"                            | EA          | 0.200          | 2.00            | 22.50        | 24.50        |
| 3/8"                                   | EA          | 0.200          | 2.65            | 22.50        | 25.15        |
| 1/2"                                   | EA          | 0.200          | 3.98            | 22.50        | 26.48        |
| 5/16" x                                |             |                |                 |              |              |
| 1/8"                                   | EA          | 0.200          | 2.17            | 22.50        | 24.67        |
| 1/4"                                   | EA          | 0.200          | 2.47            | 22.50        | 24.97        |
| 3/8"                                   | EA          | 0.200          | 3.59            | 22.50        | 26.09        |
| 3/8" x                                 |             |                |                 |              |              |
| 1/8"                                   | EA          | 0.200          | 2.07            | 22.50        | 24.57        |
| 1/4"                                   | EA          | 0.200          | 2.41            | 22.50        | 24.91        |
| 1/2"                                   | EA          | 0.200          | 3.36            | 22.50        | 25.86        |
| 5/8" x                                 |             |                |                 |              |              |
| 3/8"                                   | EA          | 0.229          | 4.80            | 25.50        | 30.30        |
| 1/2"                                   | EA          | 0.229          | 4.14            | 25.50        | 29.64        |
| Female elbow, 1/4" x 1/4"              | EA          | 0.229          | 4.62            | 25.50        | 30.12        |
| 5/16" x                                |             |                |                 |              |              |
| 1/8"                                   | EA          | 0.229          | 4.97            | 25.50        | 30.47        |
| 1/4"                                   | EA          | 0.229          | 7.27            | 25.50        | 32.77        |
| 3/8" x                                 |             |                |                 |              |              |
| 3/8"                                   | EA          | 0.229          | 4.01            | 25.50        | 29.51        |
| 1/2"                                   | EA          | 0.229          | 3.36            | 25.50        | 28.86        |
| Male elbow, 1/8" x 1/8"                | EA          | 0.229          | 4.50            | 25.50        | 30.00        |
| 3/16" x 1/4"                           | EA          | 0.229          | 4.11            | 25.50        | 29.61        |
| 1/4" x                                 |             |                |                 |              |              |
| 1/8"                                   | EA          | 0.229          | 2.54            | 25.50        | 28.04        |
| 1/4"                                   | EA          | 0.229          | 3.03            | 25.50        | 28.53        |
| 3/8"                                   | EA          | 0.229          | 2.58            | 25.50        | 28.08        |
| 5/16" x                                |             |                |                 |              |              |
| 1/8"                                   | EA          | 0.229          | 2.66            | 25.50        | 28.16        |
| 1/4"                                   | EA          | 0.229          | 2.96            | 25.50        | 28.46        |

## DIVISION 22 PLUMBING

|  | Unit | Man-Hrs | Material | Labor | Total |
|--|------|---------|----------|-------|-------|
| <b>22111.65 BRASS FITTINGS (Cont.)</b> |      |         |          |       |       |
| Male elbow, 1/8" x 1/8"                |      |         |          |       |       |
| 3/8" .....                             | EA   | 0.229   | 5.10     | 25.50 | 30.60 |
| 3/8" x                                 |      |         |          |       |       |
| 1/8" .....                             | EA   | 0.229   | 2.55     | 25.50 | 28.05 |
| 1/4" .....                             | EA   | 0.229   | 3.52     | 25.50 | 29.02 |
| 3/8" .....                             | EA   | 0.229   | 2.66     | 25.50 | 28.16 |
| 1/2" .....                             | EA   | 0.229   | 3.55     | 25.50 | 29.05 |
| 1/2" x                                 |      |         |          |       |       |
| 1/4" .....                             | EA   | 0.267   | 5.59     | 30.00 | 35.59 |
| 3/8" .....                             | EA   | 0.267   | 5.19     | 30.00 | 35.19 |
| 1/2" .....                             | EA   | 0.267   | 4.31     | 30.00 | 34.31 |
| 5/8" x                                 |      |         |          |       |       |
| 3/8" .....                             | EA   | 0.267   | 5.62     | 30.00 | 35.62 |
| 1/2" .....                             | EA   | 0.267   | 5.94     | 30.00 | 35.94 |
| 3/4" .....                             | EA   | 0.267   | 12.25    | 30.00 | 42.25 |
| Union                                  |      |         |          |       |       |
| 1/8" .....                             | EA   | 0.229   | 2.56     | 25.50 | 28.06 |
| 3/16" .....                            | EA   | 0.229   | 2.86     | 25.50 | 28.36 |
| 1/4" .....                             | EA   | 0.229   | 2.18     | 25.50 | 27.68 |
| 5/16" .....                            | EA   | 0.229   | 2.36     | 25.50 | 27.86 |
| 3/8" .....                             | EA   | 0.229   | 2.80     | 25.50 | 28.30 |
| Reducing union                         |      |         |          |       |       |
| 3/8" x 1/4" .....                      | EA   | 0.267   | 3.21     | 30.00 | 33.21 |
| 5/8" x                                 |      |         |          |       |       |
| 3/8" .....                             | EA   | 0.267   | 5.44     | 30.00 | 35.44 |
| 1/2" .....                             | EA   | 0.267   | 5.57     | 30.00 | 35.57 |

## **22111.67 CHROME PLATED FITTINGS**

|                          |    |       |       |       |       |
|--------------------------|----|-------|-------|-------|-------|
| CHROME PLATED FITTINGS   |    |       |       |       |       |
| Fittings                 |    |       |       |       |       |
| 90 ell                   |    |       |       |       |       |
| 3/8" .....               | EA | 0.200 | 22.00 | 22.50 | 44.50 |
| 1/2" .....               | EA | 0.200 | 28.50 | 22.50 | 51.00 |
| 45 ell                   |    |       |       |       |       |
| 3/8" .....               | EA | 0.200 | 28.50 | 22.50 | 51.00 |
| 1/2" .....               | EA | 0.200 | 37.50 | 22.50 | 60.00 |
| Tee                      |    |       |       |       |       |
| 3/8" .....               | EA | 0.267 | 30.75 | 30.00 | 60.75 |
| 1/2" .....               | EA | 0.267 | 36.50 | 30.00 | 66.50 |
| Coupling                 |    |       |       |       |       |
| 3/8" .....               | EA | 0.200 | 21.50 | 22.50 | 44.00 |
| 1/2" .....               | EA | 0.200 | 21.50 | 22.50 | 44.00 |
| Union                    |    |       |       |       |       |
| 3/8" .....               | EA | 0.200 | 35.50 | 22.50 | 58.00 |
| 1/2" .....               | EA | 0.200 | 36.75 | 22.50 | 59.25 |
| Tee                      |    |       |       |       |       |
| 1/2" x 3/8" x 3/8" ..... | EA | 0.267 | 40.50 | 30.00 | 70.50 |
| 1/2" x 3/8" x 1/2" ..... | EA | 0.267 | 41.25 | 30.00 | 71.25 |

## **22111.68 PVC/CPVC PIPE**

|                       |    |       |      |       |       |
|-----------------------|----|-------|------|-------|-------|
| PVC/CPVC PIPE         |    |       |      |       |       |
| PVC schedule 40       |    |       |      |       |       |
| 1/2" pipe .....       | LF | 0.033 | 0.63 | 3.73  | 4.36  |
| 3/4" pipe .....       | LF | 0.036 | 0.86 | 4.07  | 4.93  |
| 1" pipe .....         | LF | 0.040 | 1.10 | 4.48  | 5.58  |
| 1-1/4" pipe .....     | LF | 0.044 | 1.41 | 4.98  | 6.39  |
| 1-1/2" pipe .....     | LF | 0.050 | 2.11 | 5.60  | 7.71  |
| 2" pipe .....         | LF | 0.057 | 2.68 | 6.40  | 9.08  |
| 2-1/2" pipe .....     | LF | 0.067 | 4.33 | 7.47  | 11.80 |
| 3" pipe .....         | LF | 0.080 | 5.51 | 8.96  | 14.47 |
| 4" pipe .....         | LF | 0.100 | 7.87 | 11.25 | 19.12 |
| Fittings, 1/2"        |    |       |      |       |       |
| 90 deg ell .....      | EA | 0.100 | 0.58 | 11.25 | 11.83 |
| 45 deg ell .....      | EA | 0.100 | 0.79 | 11.25 | 12.04 |
| Tee .....             | EA | 0.114 | 0.59 | 12.75 | 13.34 |
| Reducing insert ..... | EA | 0.133 | 0.60 | 15.00 | 15.60 |

## DIVISION 22 PLUMBING

|                                       | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.68 PVC/CPVC PIPE (Cont.)</b> |             |                |                 |              |              |
| Fittings, 1/2"                        |             |                |                 |              |              |
| Threaded .....                        | EA          | 0.100          | 1.42            | 11.25        | 12.67        |
| Male adapter .....                    | EA          | 0.133          | 0.56            | 15.00        | 15.56        |
| Female adapter .....                  | EA          | 0.100          | 0.60            | 11.25        | 11.85        |
| Coupling .....                        | EA          | 0.100          | 0.44            | 11.25        | 11.69        |
| Union .....                           | EA          | 0.160          | 4.73            | 18.00        | 22.73        |
| Cap .....                             | EA          | 0.133          | 0.55            | 15.00        | 15.55        |
| Flange .....                          | EA          | 0.160          | 10.00           | 18.00        | 28.00        |
| 3/4"                                  |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.133          | 0.56            | 15.00        | 15.56        |
| 45 deg elbow .....                    | EA          | 0.133          | 1.34            | 15.00        | 16.34        |
| Tee .....                             | EA          | 0.160          | 0.77            | 18.00        | 18.77        |
| Reducing insert.....                  | EA          | 0.114          | 0.56            | 12.75        | 13.31        |
| Threaded .....                        | EA          | 0.133          | 0.85            | 15.00        | 15.85        |
| 1"                                    |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.160          | 0.99            | 18.00        | 18.99        |
| 45 deg elbow .....                    | EA          | 0.160          | 1.45            | 18.00        | 19.45        |
| Tee .....                             | EA          | 0.178          | 1.32            | 20.00        | 21.32        |
| Reducing insert.....                  | EA          | 0.160          | 0.99            | 18.00        | 18.99        |
| Threaded .....                        | EA          | 0.178          | 1.32            | 20.00        | 21.32        |
| Male adapter .....                    | EA          | 0.200          | 0.92            | 22.50        | 23.42        |
| Female adapter .....                  | EA          | 0.200          | 0.79            | 22.50        | 23.29        |
| Coupling .....                        | EA          | 0.200          | 0.72            | 22.50        | 23.22        |
| Union .....                           | EA          | 0.267          | 7.11            | 30.00        | 37.11        |
| Cap .....                             | EA          | 0.160          | 0.79            | 18.00        | 18.79        |
| Flange .....                          | EA          | 0.267          | 10.00           | 30.00        | 40.00        |
| 1-1/4"                                |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.229          | 1.71            | 25.50        | 27.21        |
| 45 deg elbow .....                    | EA          | 0.229          | 2.03            | 25.50        | 27.53        |
| Tee .....                             | EA          | 0.267          | 1.98            | 30.00        | 31.98        |
| Reducing insert.....                  | EA          | 0.267          | 1.18            | 30.00        | 31.18        |
| Threaded .....                        | EA          | 0.267          | 1.98            | 30.00        | 31.98        |
| Female adapter .....                  | EA          | 0.267          | 1.25            | 30.00        | 31.25        |
| Coupling .....                        | EA          | 0.267          | 1.05            | 30.00        | 31.05        |
| Union .....                           | EA          | 0.320          | 16.25           | 35.75        | 52.00        |
| Cap .....                             | EA          | 0.267          | 1.12            | 30.00        | 31.12        |
| Flange .....                          | EA          | 0.320          | 10.25           | 35.75        | 46.00        |
| 1-1/2"                                |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.229          | 1.91            | 25.50        | 27.41        |
| 45 deg elbow .....                    | EA          | 0.229          | 2.82            | 25.50        | 28.32        |
| Tee .....                             | EA          | 0.267          | 2.64            | 30.00        | 32.64        |
| Reducing insert.....                  | EA          | 0.267          | 1.32            | 30.00        | 31.32        |
| Threaded .....                        | EA          | 0.267          | 2.37            | 30.00        | 32.37        |
| Male adapter .....                    | EA          | 0.267          | 1.58            | 30.00        | 31.58        |
| Female adapter .....                  | EA          | 0.267          | 1.58            | 30.00        | 31.58        |
| Coupling .....                        | EA          | 0.267          | 1.18            | 30.00        | 31.18        |
| Union .....                           | EA          | 0.400          | 22.25           | 44.75        | 67.00        |
| Cap .....                             | EA          | 0.267          | 1.25            | 30.00        | 31.25        |
| Flange .....                          | EA          | 0.400          | 17.25           | 44.75        | 62.00        |
| 2"                                    |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.267          | 3.03            | 30.00        | 33.03        |
| 45 deg elbow .....                    | EA          | 0.267          | 3.82            | 30.00        | 33.82        |
| Tee .....                             | EA          | 0.320          | 4.02            | 35.75        | 39.77        |
| Reducing insert.....                  | EA          | 0.320          | 2.56            | 35.75        | 38.31        |
| Threaded .....                        | EA          | 0.320          | 3.41            | 35.75        | 39.16        |
| Male adapter .....                    | EA          | 0.320          | 2.11            | 35.75        | 37.86        |
| Female adapter .....                  | EA          | 0.320          | 2.17            | 35.75        | 37.92        |
| Coupling .....                        | EA          | 0.320          | 1.76            | 35.75        | 37.51        |
| Union .....                           | EA          | 0.500          | 30.50           | 56.00        | 86.50        |
| Cap .....                             | EA          | 0.320          | 1.65            | 35.75        | 37.40        |
| Flange .....                          | EA          | 0.500          | 18.25           | 56.00        | 74.25        |
| 2-1/2"                                |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.500          | 9.14            | 56.00        | 65.14        |
| 45 deg elbow .....                    | EA          | 0.500          | 13.25           | 56.00        | 69.25        |

## DIVISION 22 PLUMBING

|                                       | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.68 PVC/CPVC PIPE (Cont.)</b> |             |                |                 |              |              |
| 2-1/2"                                |             |                |                 |              |              |
| Tee .....                             | EA          | 0.533          | 11.75           | 60.00        | 71.75        |
| Reducing insert.....                  | EA          | 0.533          | 3.68            | 60.00        | 63.68        |
| Threaded .....                        | EA          | 0.533          | 5.26            | 60.00        | 65.26        |
| Male adapter.....                     | EA          | 0.533          | 6.12            | 60.00        | 66.12        |
| Female adapter .....                  | EA          | 0.533          | 5.06            | 60.00        | 65.06        |
| Coupling .....                        | EA          | 0.533          | 3.65            | 60.00        | 63.65        |
| Union .....                           | EA          | 0.667          | 40.75           | 75.00        | 115.75       |
| Cap .....                             | EA          | 0.500          | 4.88            | 56.00        | 60.88        |
| Flange .....                          | EA          | 0.667          | 24.50           | 75.00        | 99.50        |
| 3"                                    |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.667          | 9.88            | 75.00        | 84.88        |
| 45 deg elbow .....                    | EA          | 0.667          | 12.75           | 75.00        | 87.75        |
| Tee .....                             | EA          | 0.727          | 15.75           | 82.00        | 97.75        |
| Reducing insert.....                  | EA          | 0.667          | 4.73            | 75.00        | 79.73        |
| Threaded .....                        | EA          | 0.667          | 6.12            | 75.00        | 81.12        |
| Male adapter.....                     | EA          | 0.667          | 7.51            | 75.00        | 82.51        |
| Female adapter .....                  | EA          | 0.667          | 6.05            | 75.00        | 81.05        |
| Coupling .....                        | EA          | 0.667          | 5.59            | 75.00        | 80.59        |
| Union .....                           | EA          | 0.800          | 42.75           | 90.00        | 132.75       |
| Cap .....                             | EA          | 0.667          | 4.88            | 75.00        | 79.88        |
| Flange .....                          | EA          | 0.800          | 22.50           | 90.00        | 112.50       |
| 4"                                    |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.800          | 17.75           | 90.00        | 107.75       |
| 45 deg elbow .....                    | EA          | 0.800          | 23.00           | 90.00        | 113.00       |
| Tee .....                             | EA          | 0.889          | 26.25           | 100.00       | 126.25       |
| Reducing insert.....                  | EA          | 0.800          | 10.75           | 90.00        | 100.75       |
| Threaded .....                        | EA          | 0.800          | 13.75           | 90.00        | 103.75       |
| Male adapter.....                     | EA          | 0.800          | 9.54            | 90.00        | 99.54        |
| Female adapter .....                  | EA          | 0.800          | 10.25           | 90.00        | 100.25       |
| Coupling .....                        | EA          | 0.800          | 8.15            | 90.00        | 98.15        |
| Union .....                           | EA          | 1.000          | 52.00           | 110.00       | 162.00       |
| Cap .....                             | EA          | 0.800          | 11.00           | 90.00        | 101.00       |
| Flange .....                          | EA          | 1.000          | 30.25           | 110.00       | 140.25       |
| PVC schedule 80 pipe                  |             |                |                 |              |              |
| 1-1/2" pipe .....                     | LF          | 0.050          | 2.80            | 5.60         | 8.40         |
| 2" pipe .....                         | LF          | 0.057          | 3.78            | 6.40         | 10.18        |
| 3" pipe .....                         | LF          | 0.080          | 7.80            | 8.96         | 16.76        |
| 4" pipe .....                         | LF          | 0.100          | 10.25           | 11.25        | 21.50        |
| Fittings, 1-1/2"                      |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.267          | 6.69            | 30.00        | 36.69        |
| 45 deg elbow .....                    | EA          | 0.267          | 14.75           | 30.00        | 44.75        |
| Tee .....                             | EA          | 0.400          | 23.00           | 44.75        | 67.75        |
| Reducing insert.....                  | EA          | 0.267          | 4.24            | 30.00        | 34.24        |
| Threaded .....                        | EA          | 0.267          | 5.06            | 30.00        | 35.06        |
| Male adapter.....                     | EA          | 0.267          | 8.06            | 30.00        | 38.06        |
| Female adapter .....                  | EA          | 0.267          | 8.71            | 30.00        | 38.71        |
| Coupling .....                        | EA          | 0.267          | 9.30            | 30.00        | 39.30        |
| Union .....                           | EA          | 0.400          | 16.75           | 44.75        | 61.50        |
| Cap .....                             | EA          | 0.267          | 4.74            | 30.00        | 34.74        |
| Flange .....                          | EA          | 0.400          | 11.00           | 44.75        | 55.75        |
| 2"                                    |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.320          | 8.10            | 35.75        | 43.85        |
| 45 deg elbow .....                    | EA          | 0.320          | 19.00           | 35.75        | 54.75        |
| Tee .....                             | EA          | 0.500          | 28.75           | 56.00        | 84.75        |
| Reducing insert.....                  | EA          | 0.320          | 6.03            | 35.75        | 41.78        |
| Threaded .....                        | EA          | 0.320          | 6.09            | 35.75        | 41.84        |
| Male adapter.....                     | EA          | 0.320          | 11.00           | 35.75        | 46.75        |
| Female adapter .....                  | EA          | 0.320          | 15.25           | 35.75        | 51.00        |
| 2-1/2"                                |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.500          | 19.00           | 56.00        | 75.00        |
| 45 deg elbow .....                    | EA          | 0.500          | 40.00           | 56.00        | 96.00        |
| Tee .....                             | EA          | 0.667          | 31.25           | 75.00        | 106.25       |
| Reducing insert.....                  | EA          | 0.500          | 10.50           | 56.00        | 66.50        |

## DIVISION 22 PLUMBING

|                                       | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.68 PVC/CPVC PIPE (Cont.)</b> |             |                |                 |              |              |
| 2-1/2"                                |             |                |                 |              |              |
| Threaded .....                        | EA          | 0.500          | 13.00           | 56.00        | 69.00        |
| Male adapter .....                    | EA          | 0.500          | 13.25           | 56.00        | 69.25        |
| Female adapter .....                  | EA          | 0.500          | 24.00           | 56.00        | 80.00        |
| Coupling .....                        | EA          | 0.500          | 13.00           | 56.00        | 69.00        |
| Union .....                           | EA          | 0.667          | 36.00           | 75.00        | 111.00       |
| Cap .....                             | EA          | 0.500          | 15.25           | 56.00        | 71.25        |
| Flange .....                          | EA          | 0.667          | 19.25           | 75.00        | 94.25        |
| 3"                                    |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.667          | 17.00           | 75.00        | 92.00        |
| 45 deg elbow .....                    | EA          | 0.667          | 48.75           | 75.00        | 123.75       |
| Tee .....                             | EA          | 0.800          | 39.25           | 90.00        | 129.25       |
| Reducing insert .....                 | EA          | 0.667          | 16.75           | 75.00        | 91.75        |
| Threaded .....                        | EA          | 0.667          | 24.25           | 75.00        | 99.25        |
| Male adapter .....                    | EA          | 0.667          | 14.75           | 75.00        | 89.75        |
| Female adapter .....                  | EA          | 0.667          | 27.00           | 75.00        | 102.00       |
| Coupling .....                        | EA          | 0.667          | 14.75           | 75.00        | 89.75        |
| Union .....                           | EA          | 0.800          | 46.00           | 90.00        | 136.00       |
| Cap .....                             | EA          | 0.667          | 19.25           | 75.00        | 94.25        |
| Flange .....                          | EA          | 0.800          | 22.00           | 90.00        | 112.00       |
| 4"                                    |             |                |                 |              |              |
| 90 deg elbow .....                    | EA          | 0.800          | 43.50           | 90.00        | 133.50       |
| 45 deg elbow .....                    | EA          | 0.800          | 88.00           | 90.00        | 178.00       |
| Tee .....                             | EA          | 1.000          | 45.25           | 110.00       | 155.25       |
| Reducing insert .....                 | EA          | 0.800          | 23.00           | 90.00        | 113.00       |
| Threaded .....                        | EA          | 0.800          | 37.25           | 90.00        | 127.25       |
| Male adapter .....                    | EA          | 0.800          | 26.00           | 90.00        | 116.00       |
| Coupling .....                        | EA          | 0.800          | 18.50           | 90.00        | 108.50       |
| Union .....                           | EA          | 1.000          | 43.50           | 110.00       | 153.50       |
| Cap .....                             | EA          | 0.800          | 23.50           | 90.00        | 113.50       |
| Flange .....                          | EA          | 1.000          | 30.00           | 110.00       | 140.00       |
| CPVC schedule 40                      |             |                |                 |              |              |
| 1/2" pipe .....                       | LF          | 0.033          | 1.13            | 3.73         | 4.86         |
| 3/4" pipe .....                       | LF          | 0.036          | 1.52            | 4.07         | 5.59         |
| 1" pipe .....                         | LF          | 0.040          | 2.21            | 4.48         | 6.69         |
| 1-1/4" pipe .....                     | LF          | 0.044          | 2.90            | 4.98         | 7.88         |
| 1-1/2" pipe .....                     | LF          | 0.050          | 3.51            | 5.60         | 9.11         |
| 2" pipe .....                         | LF          | 0.057          | 4.67            | 6.40         | 11.07        |
| Fittings, CPVC, schedule 80           |             |                |                 |              |              |
| 1/2", 90 deg ell .....                | EA          | 0.080          | 3.44            | 8.96         | 12.40        |
| Tee .....                             | EA          | 0.133          | 10.50           | 15.00        | 25.50        |
| 3/4", 90 deg ell .....                | EA          | 0.080          | 4.48            | 8.96         | 13.44        |
| Tee .....                             | EA          | 0.133          | 5.74            | 15.00        | 20.74        |
| 1", 90 deg ell .....                  | EA          | 0.089          | 7.09            | 9.96         | 17.05        |
| Tee .....                             | EA          | 0.145          | 8.30            | 16.25        | 24.55        |
| 1-1/4", 90 deg ell .....              | EA          | 0.089          | 13.00           | 9.96         | 22.96        |
| Tee .....                             | EA          | 0.145          | 15.50           | 16.25        | 31.75        |
| 1-1/2", 90 deg ell .....              | EA          | 0.160          | 14.25           | 18.00        | 32.25        |
| Tee .....                             | EA          | 0.200          | 17.50           | 22.50        | 40.00        |
| 2", 90 deg ell .....                  | EA          | 0.160          | 15.50           | 18.00        | 33.50        |
| Tee .....                             | EA          | 0.200          | 19.75           | 22.50        | 42.25        |

## **22111.69 STEEL PIPE**

### STEEL PIPE

Black steel, extra heavy pipe, threaded

|  |    |       |       |       |       |
|--|----|-------|-------|-------|-------|
| 1/2" pipe .....                                      | LF | 0.032 | 2.81  | 3.58  | 6.39  |
| 3/4" pipe .....                                      | LF | 0.032 | 3.64  | 3.58  | 7.22  |
| <b>Fittings, malleable iron, threaded, 1/2" pipe</b> |    |       |       |       |       |
| 90 deg ell .....                                     | EA | 0.267 | 3.37  | 30.00 | 33.37 |
| 45 deg ell .....                                     | EA | 0.267 | 4.56  | 30.00 | 34.56 |
| Tee .....  | EA | 0.400 | 3.66  | 44.75 | 48.41 |
| Reducing tee .....                                   | EA | 0.400 | 8.22  | 44.75 | 52.97 |
| Cap .....  | EA | 0.160 | 2.85  | 18.00 | 20.85 |
| Coupling .....                                       | EA | 0.320 | 3.81  | 35.75 | 39.56 |
| Union .....  | EA | 0.267 | 16.00 | 30.00 | 46.00 |

## DIVISION 22 PLUMBING

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>22111.69 STEEL PIPE (Cont.)</u></b>        |             |                |                 |              |              |
| Fittings, malleable iron, threaded, 1/2" pipe    |             |                |                 |              |              |
| Nipple, 4" long .....                            | EA          | 0.267          | 3.00            | 30.00        | 33.00        |
| 3/4" pipe  |             |                |                 |              |              |
| 90 deg ell .....                                 | EA          | 0.267          | 3.95            | 30.00        | 33.95        |
| 45 deg ell .....                                 | EA          | 0.400          | 6.26            | 44.75        | 51.01        |
| Tee .....  | EA          | 0.400          | 5.31            | 44.75        | 50.06        |
| Reducing tee .....                               | EA          | 0.267          | 9.18            | 30.00        | 39.18        |
| Cap .....  | EA          | 0.160          | 3.81            | 18.00        | 21.81        |
| Coupling .....                                   | EA          | 0.267          | 4.50            | 30.00        | 34.50        |
| Union .....                                      | EA          | 0.267          | 18.00           | 30.00        | 48.00        |
| Nipple, 4" long .....                            | EA          | 0.267          | 3.47            | 30.00        | 33.47        |
| Cast iron fittings                               |             |                |                 |              |              |
| 1/2" pipe  |             |                |                 |              |              |
| 90 deg. ell .....                                | EA          | 0.267          | 5.08            | 30.00        | 35.08        |
| 45 deg. ell .....                                | EA          | 0.267          | 10.25           | 30.00        | 40.25        |
| Tee .....  | EA          | 0.400          | 6.70            | 44.75        | 51.45        |
| Reducing tee .....                               | EA          | 0.400          | 12.75           | 44.75        | 57.50        |
| 3/4" pipe  |             |                |                 |              |              |
| 90 deg. ell .....                                | EA          | 0.267          | 5.43            | 30.00        | 35.43        |
| 45 deg. ell .....                                | EA          | 0.267          | 6.70            | 30.00        | 36.70        |
| Tee .....  | EA          | 0.400          | 8.39            | 44.75        | 53.14        |
| Reducing tee .....                               | EA          | 0.400          | 10.75           | 44.75        | 55.50        |
| <b><u>22111.70 GALVANIZED STEEL PIPE</u></b>     |             |                |                 |              |              |
| GALVANIZED STEEL PIPE                            |             |                |                 |              |              |
| Galvanized pipe                                  |             |                |                 |              |              |
| 1/2" pipe .....                                  | LF          | 0.080          | 4.97            | 8.96         | 13.93        |
| 3/4" pipe .....                                  | LF          | 0.100          | 6.47            | 11.25        | 17.72        |
| 90 degree ell, 150 lb malleable iron, galvanized |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.160          | 2.22            | 18.00        | 20.22        |
| 3/4" .....                                       | EA          | 0.200          | 2.95            | 22.50        | 25.45        |
| 45 degree ell, 150 lb m.i., galv.                |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.160          | 10.25           | 18.00        | 28.25        |
| 3/4" .....                                       | EA          | 0.200          | 4.82            | 22.50        | 27.32        |
| Tees, straight, 150 lb m.i., galv.               |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.200          | 2.95            | 22.50        | 25.45        |
| 3/4" .....                                       | EA          | 0.229          | 4.92            | 25.50        | 30.42        |
| Tees, reducing, out, 150 lb m.i., galv.          |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.200          | 5.10            | 22.50        | 27.60        |
| 3/4" .....                                       | EA          | 0.229          | 5.91            | 25.50        | 31.41        |
| Couplings, straight, 150 lb m.i., galv.          |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.160          | 2.73            | 18.00        | 20.73        |
| 3/4" .....                                       | EA          | 0.178          | 3.27            | 20.00        | 23.27        |
| Couplings, reducing, 150 lb m.i., galv           |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.160          | 3.18            | 18.00        | 21.18        |
| 3/4" .....                                       | EA          | 0.178          | 3.55            | 20.00        | 23.55        |
| Caps, 150 lb m.i., galv.                         |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.080          | 2.27            | 8.96         | 11.23        |
| 3/4" .....                                       | EA          | 0.084          | 3.00            | 9.44         | 12.44        |
| Unions, 150 lb m.i., galv.                       |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.200          | 12.75           | 22.50        | 35.25        |
| 3/4" .....                                       | EA          | 0.229          | 14.25           | 25.50        | 39.75        |
| Nipples, galvanized steel, 4" long               |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.100          | 3.27            | 11.25        | 14.52        |
| 3/4" .....                                       | EA          | 0.107          | 4.36            | 12.00        | 16.36        |
| 90 degree reducing ell, 150 lb m.i., galv.       |             |                |                 |              |              |
| 3/4" x 1/2" .....                                | EA          | 0.160          | 3.55            | 18.00        | 21.55        |
| 1" x 3/4" .....                                  | EA          | 0.178          | 4.82            | 20.00        | 24.82        |
| Square head plug (C.I.)                          |             |                |                 |              |              |
| 1/2" .....                                       | EA          | 0.089          | 2.25            | 9.96         | 12.21        |
| 3/4" .....                                       | EA          | 0.100          | 5.00            | 11.25        | 16.25        |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22111.91 BACKFLOW PREVENTERS</b>                 |             |                |                 |              |              |
| BACKFLOW PREVENTERS                                 |             |                |                 |              |              |
| Backflow preventer, flanged, cast iron, with valves |             |                |                 |              |              |
| 3" pipe .....                                       | EA          | 4.000          | 4,030.00        | 450.00       | 4,480.00     |
| 4" pipe .....                                       | EA          | 4.444          | 4,700.00        | 500.00       | 5,200.00     |
| Threaded  |             |                |                 |              |              |
| 3/4" pipe .....                                     | EA          | 0.500          | 640.00          | 56.00        | 696.00       |
| 2" pipe .....                                       | EA          | 0.800          | 1,120.00        | 90.00        | 1,210.00     |
| <b>22111.96 VACUUM BREAKERS</b>                     |             |                |                 |              |              |
| VACUUM BREAKERS                                     |             |                |                 |              |              |
| Vacuum breaker, atmospheric, threaded connection    |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.320          | 55.00           | 35.75        | 90.75        |
| Anti-siphon, brass                                  |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.320          | 60.00           | 35.75        | 95.75        |
| <b>22120.04 STORAGE TANKS</b>                       |             |                |                 |              |              |
| STORAGE TANKS                                       |             |                |                 |              |              |
| Hot water storage tank, cement lined                |             |                |                 |              |              |
| 10 gallon .....                                     | EA          | 2.667          | 540.00          | 300.00       | 840.00       |
| 70 gallon .....                                     | EA          | 4.000          | 1,700.00        | 450.00       | 2,150.00     |
| <b>22131.60 C.I. PIPE, ABOVE GROUND</b>             |             |                |                 |              |              |
| C.I. PIPE, ABOVE GROUND                             |             |                |                 |              |              |
| No hub pipe   |             |                |                 |              |              |
| 1-1/2" pipe .....                                   | LF          | 0.057          | 12.25           | 6.40         | 18.65        |
| 2" pipe .....                                       | LF          | 0.067          | 10.75           | 7.47         | 18.22        |
| 3" pipe .....                                       | LF          | 0.080          | 15.00           | 8.96         | 23.96        |
| 4" pipe .....                                       | LF          | 0.133          | 19.50           | 15.00        | 34.50        |
| No hub fittings, 1-1/2" pipe                        |             |                |                 |              |              |
| 1/4 bend .....                                      | EA          | 0.267          | 13.50           | 30.00        | 43.50        |
| 1/8 bend .....                                      | EA          | 0.267          | 11.50           | 30.00        | 41.50        |
| Sanitary tee .....                                  | EA          | 0.400          | 19.00           | 44.75        | 63.75        |
| Sanitary cross .....                                | EA          | 0.400          | 25.50           | 44.75        | 70.25        |
| Plug .....  | EA          |                |                 |              | 7.51         |
| Coupling .....                                      | EA          |                |                 |              | 27.00        |
| Wye .....   | EA          | 0.400          | 23.50           | 44.75        | 68.25        |
| Tapped tee .....                                    | EA          | 0.267          | 25.00           | 30.00        | 55.00        |
| P-trap .....  | EA          | 0.267          | 21.25           | 30.00        | 51.25        |
| Tapped cross .....                                  | EA          | 0.267          | 28.25           | 30.00        | 58.25        |
| 2" pipe   |             |                |                 |              |              |
| 1/4 bend .....                                      | EA          | 0.320          | 17.00           | 35.75        | 52.75        |
| 1/8 bend .....                                      | EA          | 0.320          | 13.75           | 35.75        | 49.50        |
| Sanitary tee .....                                  | EA          | 0.533          | 23.25           | 60.00        | 83.25        |
| Sanitary cross .....                                | EA          | 0.533          | 39.25           | 60.00        | 99.25        |
| Plug .....  | EA          |                |                 |              | 8.14         |
| Coupling .....                                      | EA          |                |                 |              | 25.75        |
| Wye .....   | EA          | 0.667          | 21.75           | 75.00        | 96.75        |
| Double wye .....                                    | EA          | 0.667          | 33.75           | 75.00        | 108.75       |
| 2x1-1/2" wye & 1/8 bend .....                       | EA          | 0.500          | 40.75           | 56.00        | 96.75        |
| Double wye & 1/8 bend .....                         | EA          | 0.667          | 33.75           | 75.00        | 108.75       |
| Test tee less 2" plug .....                         | EA          | 0.320          | 21.00           | 35.75        | 56.75        |
| Tapped tee  |             |                |                 |              |              |
| 2"x2" .....   | EA          | 0.320          | 30.00           | 35.75        | 65.75        |
| 2"x1-1/2" .....                                     | EA          | 0.320          | 28.25           | 35.75        | 64.00        |
| P-trap  |             |                |                 |              |              |
| 2"x2" .....   | EA          | 0.320          | 27.25           | 35.75        | 63.00        |
| Tapped cross  |             |                |                 |              |              |
| 2"x1-1/2" .....                                     | EA          | 0.320          | 38.50           | 35.75        | 74.25        |
| 3" pipe   |             |                |                 |              |              |
| 1/4 bend .....                                      | EA          | 0.400          | 23.25           | 44.75        | 68.00        |
| 1/8 bend .....                                      | EA          | 0.400          | 19.50           | 44.75        | 64.25        |
| Sanitary tee .....                                  | EA          | 0.500          | 28.50           | 56.00        | 84.50        |
| 3"x2" sanitary tee .....                            | EA          | 0.500          | 25.75           | 56.00        | 81.75        |
| 3"x1-1/2" sanitary tee .....                        | EA          | 0.500          | 27.00           | 56.00        | 83.00        |
| Sanitary cross .....                                | EA          | 0.667          | 61.00           | 75.00        | 136.00       |
| 3x2" sanitary cross .....                           | EA          | 0.667          | 54.00           | 75.00        | 129.00       |

## DIVISION 22 PLUMBING

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>22131.60 C.I. PIPE, ABOVE GROUND (Cont.)</u></b> |             |                |                 |              |              |
| 3" pipe  |             |                |                 |              |              |
| Plug .....   | EA          |                |                 |              | 12.00        |
| Coupling .....   | EA          |                |                 |              | 29.50        |
| Wye .....  | EA          | 0.667          | 31.00           | 75.00        | 106.00       |
| 3x2" wye .....   | EA          | 0.667          | 23.25           | 75.00        | 98.25        |
| Double wye .....                                       | EA          | 0.667          | 62.00           | 75.00        | 137.00       |
| 3x2" double wye .....                                  | EA          | 0.667          | 53.00           | 75.00        | 128.00       |
| 3x2" wye & 1/8 bend .....                              | EA          | 0.571          | 29.25           | 64.00        | 93.25        |
| 3x1-1/2" wye & 1/8 bend .....                          | EA          | 0.571          | 29.25           | 64.00        | 93.25        |
| Double wye & 1/8 bend .....                            | EA          | 0.667          | 62.00           | 75.00        | 137.00       |
| 3x2" double wye & 1/8 bend .....                       | EA          | 0.667          | 53.00           | 75.00        | 128.00       |
| 3x2" reducer .....                                     | EA          | 0.364          | 11.75           | 40.75        | 52.50        |
| Test tee, less 3" plug .....                           | EA          | 0.400          | 32.50           | 44.75        | 77.25        |
| Plug .....   | EA          |                |                 |              | 12.00        |
| 3x3" tapped tee .....                                  | EA          | 0.400          | 74.00           | 44.75        | 118.75       |
| 3x2" tapped tee .....                                  | EA          | 0.400          | 40.25           | 44.75        | 85.00        |
| 3x1-1/2" tapped tee .....                              | EA          | 0.400          | 34.25           | 44.75        | 79.00        |
| P-trap .....   | EA          | 0.400          | 54.00           | 44.75        | 98.75        |
| 3x2" tapped cross .....                                | EA          | 0.400          | 50.00           | 44.75        | 94.75        |
| 3x1-1/2" tapped cross .....                            | EA          | 0.400          | 47.50           | 44.75        | 92.25        |
| Closet flange, 3-1/2" deep .....                       | EA          | 0.200          | 34.50           | 22.50        | 57.00        |
| 4" pipe  |             |                |                 |              |              |
| 1/4 bend .....   | EA          | 0.400          | 33.75           | 44.75        | 78.50        |
| 1/8 bend .....   | EA          | 0.400          | 24.75           | 44.75        | 69.50        |
| Sanitary tee .....                                     | EA          | 0.667          | 44.00           | 75.00        | 119.00       |
| 4x3" sanitary tee .....                                | EA          | 0.667          | 40.50           | 75.00        | 115.50       |
| 4x2" sanitary tee .....                                | EA          | 0.667          | 33.75           | 75.00        | 108.75       |
| Sanitary cross .....                                   | EA          | 0.800          | 110.00          | 90.00        | 200.00       |
| 4x3" sanitary cross .....                              | EA          | 0.800          | 93.00           | 90.00        | 183.00       |
| 4x2" sanitary cross .....                              | EA          | 0.800          | 77.00           | 90.00        | 167.00       |
| Plug .....   | EA          |                |                 |              | 18.75        |
| Coupling .....   | EA          |                |                 |              | 28.75        |
| Wye .....  | EA          | 0.667          | 51.00           | 75.00        | 126.00       |
| 4x3" wye .....   | EA          | 0.667          | 44.00           | 75.00        | 119.00       |
| 4x2" wye .....   | EA          | 0.667          | 32.50           | 75.00        | 107.50       |
| Double wye .....                                       | EA          | 0.800          | 130.00          | 90.00        | 220.00       |
| 4x3" double wye .....                                  | EA          | 0.800          | 79.00           | 90.00        | 169.00       |
| 4x2" double wye .....                                  | EA          | 0.800          | 70.00           | 90.00        | 160.00       |
| Wye & 1/8 bend .....                                   | EA          | 0.667          | 69.00           | 75.00        | 144.00       |
| 4x3" wye & 1/8 bend .....                              | EA          | 0.667          | 50.00           | 75.00        | 125.00       |
| 4x2" wye & 1/8 bend .....                              | EA          | 0.667          | 39.00           | 75.00        | 114.00       |
| Double wye & 1/8 bend .....                            | EA          | 0.800          | 180.00          | 90.00        | 270.00       |
| 4x3" double wye & 1/8 bend .....                       | EA          | 0.800          | 120.00          | 90.00        | 210.00       |
| 4x2" double wye & 1/8 bend .....                       | EA          | 0.800          | 110.00          | 90.00        | 200.00       |
| 4x3" reducer .....                                     | EA          | 0.400          | 18.25           | 44.75        | 63.00        |
| 4x2" reducer .....                                     | EA          | 0.400          | 18.25           | 44.75        | 63.00        |
| Test tee, less 4" plug .....                           | EA          | 0.400          | 55.00           | 44.75        | 99.75        |
| Plug .....   | EA          |                |                 |              | 18.75        |
| 4x2" tapped tee .....                                  | EA          | 0.400          | 40.25           | 44.75        | 85.00        |
| 4x1-1/2" tapped tee .....                              | EA          | 0.400          | 35.50           | 44.75        | 80.25        |
| P-trap .....   | EA          | 0.400          | 94.00           | 44.75        | 138.75       |
| 4x2" tapped cross .....                                | EA          | 0.400          | 72.00           | 44.75        | 116.75       |
| 4x1-1/2" tapped cross .....                            | EA          | 0.400          | 56.00           | 44.75        | 100.75       |
| Closet flange  |             |                |                 |              |              |
| 3" deep .....  | EA          | 0.400          | 37.50           | 44.75        | 82.25        |
| 8" deep .....  | EA          | 0.400          | 97.00           | 44.75        | 141.75       |
| <b><u>22131.61 C.I. PIPE, BELOW GROUND</u></b>         |             |                |                 |              |              |
| C.I. PIPE, BELOW GROUND                                |             |                |                 |              |              |
| No hub pipe  |             |                |                 |              |              |
| 1-1/2" pipe .....                                      | LF          | 0.040          | 13.00           | 4.48         | 17.48        |
| 2" pipe .....  | LF          | 0.044          | 13.25           | 4.98         | 18.23        |
| 3" pipe .....  | LF          | 0.050          | 18.25           | 5.60         | 23.85        |
| 4" pipe .....  | LF          | 0.067          | 23.75           | 7.47         | 31.22        |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22131.61 C.I. PIPE, BELOW GROUND (Cont.)</b> |             |                |                 |              |              |
| No hub pipe                                     |             |                |                 |              |              |
| Fittings, 1-1/2"                                |             |                |                 |              |              |
| 1/4 bend .....                                  | EA          | 0.229          | 15.50           | 25.50        | 41.00        |
| 1/8 bend .....                                  | EA          | 0.229          | 13.00           | 25.50        | 38.50        |
| Plug .....                                      | EA          |                |                 |              | 8.14         |
| Wye .....                                       | EA          | 0.320          | 21.75           | 35.75        | 57.50        |
| Wye & 1/8 bend .....                            | EA          | 0.229          | 23.25           | 25.50        | 48.75        |
| P-trap .....                                    | EA          | 0.229          | 25.50           | 25.50        | 51.00        |
| 2"  |             |                |                 |              |              |
| 1/4 bend .....                                  | EA          | 0.267          | 17.00           | 30.00        | 47.00        |
| 1/8 bend .....                                  | EA          | 0.267          | 14.50           | 30.00        | 44.50        |
| Plug .....                                      | EA          |                |                 |              | 8.14         |
| Double wye .....                                | EA          | 0.500          | 33.75           | 56.00        | 89.75        |
| Wye & 1/8 bend .....                            | EA          | 0.400          | 23.50           | 44.75        | 68.25        |
| Double wye & 1/8 bend .....                     | EA          | 0.500          | 58.00           | 56.00        | 114.00       |
| P-trap .....                                    | EA          | 0.267          | 24.75           | 30.00        | 54.75        |
| 3"  |             |                |                 |              |              |
| 1/4 bend .....                                  | EA          | 0.320          | 23.25           | 35.75        | 59.00        |
| 1/8 bend .....                                  | EA          | 0.320          | 19.50           | 35.75        | 55.25        |
| Plug .....                                      | EA          |                |                 |              | 12.00        |
| Wye .....                                       | EA          | 0.500          | 31.00           | 56.00        | 87.00        |
| 3x2" wye .....                                  | EA          | 0.500          | 23.25           | 56.00        | 79.25        |
| Wye & 1/8 bend .....                            | EA          | 0.500          | 37.50           | 56.00        | 93.50        |
| Double wye & 1/8 bend .....                     | EA          | 0.500          | 89.00           | 56.00        | 145.00       |
| 3x2" double wye & 1/8 bend .....                | EA          | 0.500          | 68.00           | 56.00        | 124.00       |
| 3x2" reducer .....                              | EA          | 0.320          | 11.75           | 35.75        | 47.50        |
| P-trap .....                                    | EA          | 0.320          | 54.00           | 35.75        | 89.75        |
| 4"  |             |                |                 |              |              |
| 1/4 bend .....                                  | EA          | 0.320          | 33.75           | 35.75        | 69.50        |
| 1/8 bend .....                                  | EA          | 0.320          | 24.75           | 35.75        | 60.50        |
| Plug .....                                      | EA          |                |                 |              | 18.75        |
| Wye .....                                       | EA          | 0.500          | 51.00           | 56.00        | 107.00       |
| 4x3" wye .....                                  | EA          | 0.500          | 44.00           | 56.00        | 100.00       |
| 4x2" wye .....                                  | EA          | 0.500          | 32.50           | 56.00        | 88.50        |
| Double wye .....                                | EA          | 0.667          | 130.00          | 75.00        | 205.00       |
| 4x3" double wye .....                           | EA          | 0.667          | 79.00           | 75.00        | 154.00       |
| 4x2" double wye .....                           | EA          | 0.667          | 70.00           | 75.00        | 145.00       |
| Wye & 1/8 bend .....                            | EA          | 0.500          | 69.00           | 56.00        | 125.00       |
| 4x3" wye & 1/8 bend .....                       | EA          | 0.500          | 50.00           | 56.00        | 106.00       |
| 4x2" wye & 1/8 bend .....                       | EA          | 0.500          | 39.00           | 56.00        | 95.00        |
| Double wye & 1/8 bend .....                     | EA          | 0.667          | 180.00          | 75.00        | 255.00       |
| 4x3" double wye & 1/8 bend .....                | EA          | 0.667          | 120.00          | 75.00        | 195.00       |
| 4x2" double wye & 1/8 bend .....                | EA          | 0.667          | 110.00          | 75.00        | 185.00       |
| 4x3" reducer .....                              | EA          | 0.320          | 18.25           | 35.75        | 54.00        |
| 4x2" reducer .....                              | EA          | 0.320          | 18.25           | 35.75        | 54.00        |
| <b>22131.63 ABS DWV PIPE</b>                    |             |                |                 |              |              |
| ABS DWV PIPE                                    |             |                |                 |              |              |
| Schedule 40 ABS                                 |             |                |                 |              |              |
| 1-1/2" pipe .....                               | LF          | 0.040          | 1.81            | 4.48         | 6.29         |
| 2" pipe .....                                   | LF          | 0.044          | 2.42            | 4.98         | 7.40         |
| 3" pipe .....                                   | LF          | 0.057          | 4.97            | 6.40         | 11.37        |
| 4" pipe .....                                   | LF          | 0.080          | 7.04            | 8.96         | 16.00        |
| Fittings  |             |                |                 |              |              |
| 1/8 bend  |             |                |                 |              |              |
| 1-1/2" .....                                    | EA          | 0.160          | 2.30            | 18.00        | 20.30        |
| 2" .....  | EA          | 0.200          | 3.39            | 22.50        | 25.89        |
| 3" .....  | EA          | 0.267          | 8.14            | 30.00        | 38.14        |
| 4" .....  | EA          | 0.320          | 14.50           | 35.75        | 50.25        |
| Tee, sanitary                                   |             |                |                 |              |              |
| 1-1/2" .....                                    | EA          | 0.267          | 3.33            | 30.00        | 33.33        |
| 2" .....  | EA          | 0.320          | 5.14            | 35.75        | 40.89        |
| 3" .....  | EA          | 0.400          | 14.00           | 44.75        | 58.75        |
| 4" .....  | EA          | 0.500          | 25.75           | 56.00        | 81.75        |

## DIVISION 22 PLUMBING

|                                      | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>22131.63 ABS DWV PIPE (Cont.)</b> |             |                |                 |              |              |
| Fittings                             |             |                |                 |              |              |
| Tee, sanitary reducing               |             |                |                 |              |              |
| 2 x 1-1/2 x 1-1/2 .....              | EA          | 0.320          | 4.73            | 35.75        | 40.48        |
| 2 x 1-1/2 x 2 .....                  | EA          | 0.333          | 4.87            | 37.25        | 42.12        |
| 2 x 2 x 1-1/2 .....                  | EA          | 0.364          | 4.52            | 40.75        | 45.27        |
| 3 x 3 x 1-1/2 .....                  | EA          | 0.400          | 8.20            | 44.75        | 52.95        |
| 3 x 3 x 2 .....                      | EA          | 0.444          | 10.25           | 49.75        | 60.00        |
| 4 x 4 x 1-1/2 .....                  | EA          | 0.500          | 25.50           | 56.00        | 81.50        |
| 4 x 4 x 2 .....                      | EA          | 0.571          | 23.75           | 64.00        | 87.75        |
| 4 x 4 x 3 .....                      | EA          | 0.615          | 20.75           | 69.00        | 89.75        |
| Wye                                  |             |                |                 |              |              |
| 1-1/2" .....                         | EA          | 0.229          | 4.87            | 25.50        | 30.37        |
| 2" .....                             | EA          | 0.320          | 6.81            | 35.75        | 42.56        |
| 3" .....                             | EA          | 0.400          | 15.50           | 44.75        | 60.25        |
| 4" .....                             | EA          | 0.500          | 33.50           | 56.00        | 89.50        |
| Reducer                              |             |                |                 |              |              |
| 2 x 1-1/2 .....                      | EA          | 0.200          | 3.27            | 22.50        | 25.77        |
| 3 x 1-1/2 .....                      | EA          | 0.267          | 8.42            | 30.00        | 38.42        |
| 3 x 2 .....                          | EA          | 0.267          | 7.17            | 30.00        | 37.17        |
| 4 x 2 .....                          | EA          | 0.320          | 14.50           | 35.75        | 50.25        |
| 4 x 3 .....                          | EA          | 0.320          | 14.75           | 35.75        | 50.50        |
| P-trap                               |             |                |                 |              |              |
| 1-1/2" .....                         | EA          | 0.267          | 7.59            | 30.00        | 37.59        |
| 2" .....                             | EA          | 0.296          | 10.25           | 33.25        | 43.50        |
| 3" .....                             | EA          | 0.348          | 39.25           | 39.00        | 78.25        |
| 4" .....                             | EA          | 0.400          | 80.00           | 44.75        | 124.75       |
| Double sanitary tee                  |             |                |                 |              |              |
| 1-1/2" .....                         | EA          | 0.320          | 7.37            | 35.75        | 43.12        |
| 2" .....                             | EA          | 0.400          | 10.75           | 44.75        | 55.50        |
| 3" .....                             | EA          | 0.500          | 29.25           | 56.00        | 85.25        |
| 4" .....                             | EA          | 0.667          | 47.00           | 75.00        | 122.00       |
| Long sweep, 1/4 bend                 |             |                |                 |              |              |
| 1-1/2" .....                         | EA          | 0.160          | 3.83            | 18.00        | 21.83        |
| 2" .....                             | EA          | 0.200          | 4.87            | 22.50        | 27.37        |
| 3" .....                             | EA          | 0.267          | 11.75           | 30.00        | 41.75        |
| 4" .....                             | EA          | 0.400          | 21.75           | 44.75        | 66.50        |
| Wye, standard                        |             |                |                 |              |              |
| 1-1/2" .....                         | EA          | 0.267          | 4.92            | 30.00        | 34.92        |
| 2" .....                             | EA          | 0.320          | 6.81            | 35.75        | 42.56        |
| 3" .....                             | EA          | 0.400          | 15.75           | 44.75        | 60.50        |
| 4" .....                             | EA          | 0.500          | 33.50           | 56.00        | 89.50        |
| Wye, reducing                        |             |                |                 |              |              |
| 2 x 1-1/2 x 1-1/2 .....              | EA          | 0.267          | 9.12            | 30.00        | 39.12        |
| 2 x 2 x 1-1/2 .....                  | EA          | 0.320          | 8.70            | 35.75        | 44.45        |
| 4 x 4 x 2 .....                      | EA          | 0.500          | 18.50           | 56.00        | 74.50        |
| 4 x 4 x 3 .....                      | EA          | 0.533          | 25.50           | 60.00        | 85.50        |
| Double wye                           |             |                |                 |              |              |
| 1-1/2" .....                         | EA          | 0.320          | 11.25           | 35.75        | 47.00        |
| 2" .....                             | EA          | 0.400          | 13.25           | 44.75        | 58.00        |
| 3" .....                             | EA          | 0.500          | 34.00           | 56.00        | 90.00        |
| 4" .....                             | EA          | 0.667          | 69.00           | 75.00        | 144.00       |
| 2 x 2 x 1-1/2 x 1-1/2 .....          | EA          | 0.400          | 13.25           | 44.75        | 58.00        |
| 3 x 3 x 2 x 2 .....                  | EA          | 0.500          | 28.00           | 56.00        | 84.00        |
| 4 x 4 x 3 x 3 .....                  | EA          | 0.667          | 65.00           | 75.00        | 140.00       |
| Combination wye and 1/8 bend         |             |                |                 |              |              |
| 1-1/2" .....                         | EA          | 0.267          | 7.79            | 30.00        | 37.79        |
| 2" .....                             | EA          | 0.320          | 9.39            | 35.75        | 45.14        |
| 3" .....                             | EA          | 0.400          | 20.25           | 44.75        | 65.00        |
| 4" .....                             | EA          | 0.500          | 41.25           | 56.00        | 97.25        |
| 2 x 2 x 1-1/2 .....                  | EA          | 0.320          | 15.75           | 35.75        | 51.50        |
| 3 x 3 x 1-1/2 .....                  | EA          | 0.400          | 19.25           | 44.75        | 64.00        |
| 3 x 3 x 2 .....                      | EA          | 0.400          | 13.50           | 44.75        | 58.25        |
| 4 x 4 x 2 .....                      | EA          | 0.500          | 26.75           | 56.00        | 82.75        |
| 4 x 4 x 3 .....                      | EA          | 0.500          | 32.75           | 56.00        | 88.75        |

## DIVISION 22 PLUMBING

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>22131.67 DRAINS, ROOF &amp; FLOOR</b>            |             |                |                 |              |              |
| DRAINS, ROOF & FLOOR                                |             |                |                 |              |              |
| Floor drain, cast iron, with cast iron top          |             |                |                 |              |              |
| 2" .....  | EA          | 0.667          | 220.00          | 75.00        | 295.00       |
| 3" .....  | EA          | 0.667          | 230.00          | 75.00        | 305.00       |
| 4" .....  | EA          | 0.667          | 480.00          | 75.00        | 555.00       |
| Roof drain, cast iron                               |             |                |                 |              |              |
| 2" .....  | EA          | 0.667          | 280.00          | 75.00        | 355.00       |
| 3" .....  | EA          | 0.667          | 290.00          | 75.00        | 365.00       |
| 4" .....  | EA          | 0.667          | 370.00          | 75.00        | 445.00       |
| <b>22131.68 TRAPS</b>                               |             |                |                 |              |              |
| TRAPS   |             |                |                 |              |              |
| Bucket trap, threaded                               |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 230.00          | 56.00        | 286.00       |
| Inverted bucket steam trap, threaded                |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 280.00          | 56.00        | 336.00       |
| With stainless interior                             |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.500          | 170.00          | 56.00        | 226.00       |
| 3/4" .....  | EA          | 0.500          | 200.00          | 56.00        | 256.00       |
| Brass interior                                      |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 310.00          | 56.00        | 366.00       |
| Cast steel body, threaded, high temperature         |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 800.00          | 56.00        | 856.00       |
| Float trap, 15 psi                                  |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 200.00          | 56.00        | 256.00       |
| Float and thermostatic trap, 15 psi                 |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 210.00          | 56.00        | 266.00       |
| Steam trap, cast iron body, threaded, 125 psi       |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 250.00          | 56.00        | 306.00       |
| Thermostatic trap, low pressure, angle type, 25 psi |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.500          | 77.00           | 56.00        | 133.00       |
| 3/4" .....  | EA          | 0.500          | 130.00          | 56.00        | 186.00       |
| Cast iron body, threaded, 125 psi                   |             |                |                 |              |              |
| 3/4" .....  | EA          | 0.500          | 170.00          | 56.00        | 226.00       |
| <b>22131.92 CLEANOUTS</b>                           |             |                |                 |              |              |
| CLEANOUTS   |             |                |                 |              |              |
| Cleanout, wall                                      |             |                |                 |              |              |
| 2" .....  | EA          | 0.533          | 240.00          | 60.00        | 300.00       |
| 3" .....  | EA          | 0.533          | 340.00          | 60.00        | 400.00       |
| 4" .....  | EA          | 0.667          | 340.00          | 75.00        | 415.00       |
| Floor   |             |                |                 |              |              |
| 2" .....  | EA          | 0.667          | 220.00          | 75.00        | 295.00       |
| 3" .....  | EA          | 0.667          | 290.00          | 75.00        | 365.00       |
| 4" .....  | EA          | 0.800          | 300.00          | 90.00        | 390.00       |
| <b>22330.01 DOMESTIC WATER HEATERS</b>              |             |                |                 |              |              |
| DOMESTIC WATER HEATERS                              |             |                |                 |              |              |
| Water heater, electric                              |             |                |                 |              |              |
| 6 gal .....   | EA          | 1.333          | 450.00          | 150.00       | 600.00       |
| 10 gal .....  | EA          | 1.333          | 460.00          | 150.00       | 610.00       |
| 15 gal .....  | EA          | 1.333          | 450.00          | 150.00       | 600.00       |
| 20 gal .....  | EA          | 1.600          | 630.00          | 180.00       | 810.00       |
| 30 gal .....  | EA          | 1.600          | 820.00          | 180.00       | 1,000.00     |
| 40 gal .....  | EA          | 1.600          | 890.00          | 180.00       | 1,070.00     |
| 52 gal .....  | EA          | 2.000          | 1,200.00        | 220.00       | 1,420.00     |
| Oil fired   |             |                |                 |              |              |
| 20 gal .....  | EA          | 4.000          | 1,430.00        | 450.00       | 1,880.00     |
| 50 gal .....  | EA          | 5.714          | 2,230.00        | 640.00       | 2,870.00     |
| <b>22421.36 WATER CLOSETS</b>                       |             |                |                 |              |              |
| WATER CLOSETS                                       |             |                |                 |              |              |
| Water closet flush tank, floor mounted              |             |                |                 |              |              |
| Minimum .....                                       | EA          | 2.000          | 320.00          | 220.00       | 540.00       |
| Average .....                                       | EA          | 2.667          | 630.00          | 300.00       | 930.00       |
| Maximum .....                                       | EA          | 4.000          | 960.00          | 450.00       | 1,410.00     |

## DIVISION 22 PLUMBING

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
|--|-------------|----------------|-----------------|--------------|--------------|

### **22421.36 WATER CLOSETS (Cont.)**

|  |    |       |          |        |          |
|--|----|-------|----------|--------|----------|
| Water closet flush tank, floor mounted |    |       |          |        |          |
| Handicapped                            |    |       |          |        |          |
| Minimum .....                          | EA | 2.667 | 540.00   | 300.00 | 840.00   |
| Average .....                          | EA | 4.000 | 970.00   | 450.00 | 1,420.00 |
| Maximum .....                          | EA | 8.000 | 1,850.00 | 900.00 | 2,750.00 |
| For trim and rough-in                  |    |       |          |        |          |
| Minimum .....                          | EA | 2.000 | 250.00   | 220.00 | 470.00   |
| Average .....                          | EA | 2.667 | 300.00   | 300.00 | 600.00   |
| Maximum .....                          | EA | 4.000 | 400.00   | 450.00 | 850.00   |

### **22421.62 LAVATORIES**

#### LAVATORIES

|   |    |       |          |        |          |
|---|----|-------|----------|--------|----------|
| Lavatory, countertop, porcelain enamel on cast iron |    |       |          |        |          |
| Minimum .....                                       | EA | 1.600 | 230.00   | 180.00 | 410.00   |
| Average .....                                       | EA | 2.000 | 350.00   | 220.00 | 570.00   |
| Maximum .....                                       | EA | 2.667 | 630.00   | 300.00 | 930.00   |
| Wall hung, china                                    |    |       |          |        |          |
| Minimum .....                                       | EA | 1.600 | 320.00   | 180.00 | 500.00   |
| Average .....                                       | EA | 2.000 | 370.00   | 220.00 | 590.00   |
| Maximum .....                                       | EA | 2.667 | 930.00   | 300.00 | 1,230.00 |
| Handicapped   |    |       |          |        |          |
| Minimum .....                                       | EA | 2.000 | 520.00   | 220.00 | 740.00   |
| Average .....                                       | EA | 2.667 | 600.00   | 300.00 | 900.00   |
| Maximum .....                                       | EA | 4.000 | 1,000.00 | 450.00 | 1,450.00 |
| Lavatory shutoff and drainline guards/covers        |    |       |          |        |          |
| For trim and rough-in                               |    |       |          |        |          |
| Minimum .....                                       | EA | 2.000 | 270.00   | 220.00 | 490.00   |
| Average .....                                       | EA | 2.667 | 450.00   | 300.00 | 750.00   |
| Maximum .....                                       | EA | 4.000 | 560.00   | 450.00 | 1,010.00 |

### **22421.64 SINKS**

#### SINKS

|  |    |       |          |        |          |
|--|----|-------|----------|--------|----------|
| Service sink, 24"x29"                              |    |       |          |        |          |
| Minimum .....                                      | EA | 2.000 | 770.00   | 220.00 | 990.00   |
| Average .....                                      | EA | 2.667 | 960.00   | 300.00 | 1,260.00 |
| Maximum .....                                      | EA | 4.000 | 1,410.00 | 450.00 | 1,860.00 |
| Kitchen sink, single, stainless steel, single bowl |    |       |          |        |          |
| Minimum .....                                      | EA | 1.600 | 340.00   | 180.00 | 520.00   |
| Average .....                                      | EA | 2.000 | 390.00   | 220.00 | 610.00   |
| Maximum .....                                      | EA | 2.667 | 710.00   | 300.00 | 1,010.00 |
| Double bowl  |    |       |          |        |          |
| Minimum .....                                      | EA | 2.000 | 390.00   | 220.00 | 610.00   |
| Average .....                                      | EA | 2.667 | 430.00   | 300.00 | 730.00   |
| Maximum .....                                      | EA | 4.000 | 750.00   | 450.00 | 1,200.00 |
| Porcelain enamel, cast iron, single bowl           |    |       |          |        |          |
| Minimum .....                                      | EA | 1.600 | 260.00   | 180.00 | 440.00   |
| Average .....                                      | EA | 2.000 | 350.00   | 220.00 | 570.00   |
| Maximum .....                                      | EA | 2.667 | 540.00   | 300.00 | 840.00   |
| Double bowl  |    |       |          |        |          |
| Minimum .....                                      | EA | 2.000 | 370.00   | 220.00 | 590.00   |
| Average .....                                      | EA | 2.667 | 510.00   | 300.00 | 810.00   |
| Maximum .....                                      | EA | 4.000 | 730.00   | 450.00 | 1,180.00 |
| Mop sink, 24"x36"x10"                              |    |       |          |        |          |
| Minimum .....                                      | EA | 1.600 | 590.00   | 180.00 | 770.00   |
| Average .....                                      | EA | 2.000 | 710.00   | 220.00 | 930.00   |
| Maximum .....                                      | EA | 2.667 | 950.00   | 300.00 | 1,250.00 |
| Washing machine box                                |    |       |          |        |          |
| Minimum .....                                      | EA | 2.000 | 53.00    | 220.00 | 273.00   |
| Average .....                                      | EA | 2.667 | 77.00    | 300.00 | 377.00   |
| Maximum .....                                      | EA | 4.000 | 93.00    | 450.00 | 543.00   |
| For trim and rough-in                              |    |       |          |        |          |
| Minimum .....                                      | EA | 2.667 | 350.00   | 300.00 | 650.00   |
| Average .....                                      | EA | 4.000 | 530.00   | 450.00 | 980.00   |
| Maximum .....                                      | EA | 5.333 | 680.00   | 600.00 | 1,280.00 |

## DIVISION 22 PLUMBING

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
|--|-------------|----------------|-----------------|--------------|--------------|

### **22421.90 BATHS**

#### BATHS

|                              |    |        |           |          |           |
|------------------------------|----|--------|-----------|----------|-----------|
| Bathtub, 5' long             |    |        |           |          |           |
| Minimum .....                | EA | 2.667  | 640.00    | 300.00   | 940.00    |
| Average .....                | EA | 4.000  | 1,400.00  | 450.00   | 1,850.00  |
| Maximum .....                | EA | 8.000  | 3,190.00  | 900.00   | 4,090.00  |
| 6' long                      |    |        |           |          |           |
| Minimum .....                | EA | 2.667  | 720.00    | 300.00   | 1,020.00  |
| Average .....                | EA | 4.000  | 1,460.00  | 450.00   | 1,910.00  |
| Maximum .....                | EA | 8.000  | 4,140.00  | 900.00   | 5,040.00  |
| Square tub, whirlpool, 4'x4' |    |        |           |          |           |
| Minimum .....                | EA | 4.000  | 2,200.00  | 450.00   | 2,650.00  |
| Average .....                | EA | 8.000  | 3,110.00  | 900.00   | 4,010.00  |
| Maximum .....                | EA | 10.000 | 9,500.00  | 1,120.00 | 10,620.00 |
| 5'x5'                        |    |        |           |          |           |
| Minimum .....                | EA | 4.000  | 2,200.00  | 450.00   | 2,650.00  |
| Average .....                | EA | 8.000  | 3,110.00  | 900.00   | 4,010.00  |
| Maximum .....                | EA | 10.000 | 9,680.00  | 1,120.00 | 10,800.00 |
| 6'x6'                        |    |        |           |          |           |
| Minimum .....                | EA | 4.000  | 2,680.00  | 450.00   | 3,130.00  |
| Average .....                | EA | 8.000  | 3,910.00  | 900.00   | 4,810.00  |
| Maximum .....                | EA | 10.000 | 11,220.00 | 1,120.00 | 12,340.00 |
| For trim and rough-in        |    |        |           |          |           |
| Minimum .....                | EA | 2.667  | 230.00    | 300.00   | 530.00    |
| Average .....                | EA | 4.000  | 330.00    | 450.00   | 780.00    |
| Maximum .....                | EA | 8.000  | 950.00    | 900.00   | 1,850.00  |

### **22422.30 SHOWERS**

#### SHOWERS

|                                 |    |       |          |        |          |
|---------------------------------|----|-------|----------|--------|----------|
| Shower, fiberglass, 36"x34"x84" |    |       |          |        |          |
| Minimum .....                   | EA | 5.714 | 690.00   | 640.00 | 1,330.00 |
| Average .....                   | EA | 8.000 | 970.00   | 900.00 | 1,870.00 |
| Maximum .....                   | EA | 8.000 | 1,400.00 | 900.00 | 2,300.00 |
| Steel, 1 piece, 36"x36"         |    |       |          |        |          |
| Minimum .....                   | EA | 5.714 | 640.00   | 640.00 | 1,280.00 |
| Average .....                   | EA | 8.000 | 970.00   | 900.00 | 1,870.00 |
| Maximum .....                   | EA | 8.000 | 1,140.00 | 900.00 | 2,040.00 |
| Receptor, molded stone, 36"x36" |    |       |          |        |          |
| Minimum .....                   | EA | 2.667 | 270.00   | 300.00 | 570.00   |
| Average .....                   | EA | 4.000 | 450.00   | 450.00 | 900.00   |
| Maximum .....                   | EA | 6.667 | 690.00   | 750.00 | 1,440.00 |
| For trim and rough-in           |    |       |          |        |          |
| Minimum .....                   | EA | 3.636 | 270.00   | 410.00 | 680.00   |
| Average .....                   | EA | 4.444 | 450.00   | 500.00 | 950.00   |
| Maximum .....                   | EA | 8.000 | 560.00   | 900.00 | 1,460.00 |

### **22422.60 DISPOSALS & ACCESSORIES**

#### DISPOSALS & ACCESSORIES

|                           |    |       |          |        |          |
|---------------------------|----|-------|----------|--------|----------|
| Disposal, continuous feed |    |       |          |        |          |
| Minimum .....             | EA | 1.600 | 83.00    | 180.00 | 263.00   |
| Average .....             | EA | 2.000 | 230.00   | 220.00 | 450.00   |
| Maximum .....             | EA | 2.667 | 440.00   | 300.00 | 740.00   |
| Batch feed, 1/2 hp        |    |       |          |        |          |
| Minimum .....             | EA | 1.600 | 320.00   | 180.00 | 500.00   |
| Average .....             | EA | 2.000 | 640.00   | 220.00 | 860.00   |
| Maximum .....             | EA | 2.667 | 1,090.00 | 300.00 | 1,390.00 |
| Hot water dispenser       |    |       |          |        |          |
| Minimum .....             | EA | 1.600 | 230.00   | 180.00 | 410.00   |
| Average .....             | EA | 2.000 | 370.00   | 220.00 | 590.00   |
| Maximum .....             | EA | 2.667 | 580.00   | 300.00 | 880.00   |
| Epoxy finish faucet       |    |       |          |        |          |
| Minimum .....             | EA | 1.600 | 330.00   | 180.00 | 510.00   |
| Lock stop assembly        |    |       |          |        |          |
| Minimum .....             | EA | 1.000 | 70.00    | 110.00 | 180.00   |
| Mounting gasket           |    |       |          |        |          |
| Minimum .....             | EA | 0.667 | 8.13     | 75.00  | 83.13    |
| Tailpipe gasket           |    |       |          |        |          |
| Minimum .....             | EA | 0.667 | 1.19     | 75.00  | 76.19    |
| Stopper assembly          |    |       |          |        |          |
| Minimum .....             | EA | 0.800 | 27.75    | 90.00  | 117.75   |
| Switch assembly, on/off   |    |       |          |        |          |
| Minimum .....             | EA | 1.333 | 31.75    | 150.00 | 181.75   |

## DIVISION 22 PLUMBING

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>22422.60 DISPOSALS &amp; ACCESSORIES (Cont.)</u></b> |             |                |                 |              |              |
| Batch feed, 1/2 hp   |             |                |                 |              |              |
| Tailpipe gasket washer .....                               | EA          | 0.400          | 1.27            | 44.75        | 46.02        |
| Stop gasket.....   | EA          | 0.444          | 2.79            | 49.75        | 52.54        |
| Tailpipe flange .....                                      | EA          | 0.400          | 0.31            | 44.75        | 45.06        |
| Tailpipe .....   | EA          | 0.500          | 3.62            | 56.00        | 59.62        |
| <b><u>22423.90 FAUCETS</u></b>                             |             |                |                 |              |              |
| FAUCETS  |             |                |                 |              |              |
| Kitchen  |             |                |                 |              |              |
| Minimum .....  | EA          | 1.333          | 95.00           | 150.00       | 245.00       |
| Average .....  | EA          | 1.600          | 270.00          | 180.00       | 450.00       |
| Maximum .....  | EA          | 2.000          | 330.00          | 220.00       | 550.00       |
| Bath   |             |                |                 |              |              |
| Minimum .....  | EA          | 1.333          | 95.00           | 150.00       | 245.00       |
| Average .....  | EA          | 1.600          | 280.00          | 180.00       | 460.00       |
| Maximum .....  | EA          | 2.000          | 430.00          | 220.00       | 650.00       |
| Lavatory, domestic   |             |                |                 |              |              |
| Minimum .....  | EA          | 1.333          | 100.00          | 150.00       | 250.00       |
| Average .....  | EA          | 1.600          | 320.00          | 180.00       | 500.00       |
| Maximum .....  | EA          | 2.000          | 530.00          | 220.00       | 750.00       |
| Washroom   |             |                |                 |              |              |
| Minimum .....  | EA          | 1.333          | 130.00          | 150.00       | 280.00       |
| Average .....  | EA          | 1.600          | 320.00          | 180.00       | 500.00       |
| Maximum .....  | EA          | 2.000          | 580.00          | 220.00       | 800.00       |
| Handicapped  |             |                |                 |              |              |
| Minimum .....  | EA          | 1.600          | 140.00          | 180.00       | 320.00       |
| Average .....  | EA          | 2.000          | 420.00          | 220.00       | 640.00       |
| Maximum .....  | EA          | 2.667          | 650.00          | 300.00       | 950.00       |
| Shower   |             |                |                 |              |              |
| Minimum .....  | EA          | 1.333          | 130.00          | 150.00       | 280.00       |
| Average .....  | EA          | 1.600          | 370.00          | 180.00       | 550.00       |
| Maximum .....  | EA          | 2.000          | 2,780.00        | 220.00       | 3,000.00     |
| For trim and rough-in                                      |             |                |                 |              |              |
| Minimum .....  | EA          | 1.600          | 89.00           | 180.00       | 269.00       |
| Average .....  | EA          | 2.000          | 140.00          | 220.00       | 360.00       |
| Maximum .....  | EA          | 4.000          | 230.00          | 450.00       | 680.00       |

## **22423.98 HOSE BIBBS**

|            |    |       |       |       |       |
|------------|----|-------|-------|-------|-------|
| HOSE BIBBS |    |       |       |       |       |
| Hose bibb  |    |       |       |       |       |
| 1/2" ..... | EA | 0.267 | 10.50 | 30.00 | 40.50 |
| 3/4" ..... | EA | 0.267 | 11.00 | 30.00 | 41.00 |

## DIVISION 23 HVAC

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>23071.31 DUCTWORK INSULATION</b>                    |             |                |                 |              |              |
| DUCTWORK INSULATION                                    |             |                |                 |              |              |
| Fiberglass duct insulation, plain blanket              |             |                |                 |              |              |
| 1-1/2" thick .....                                     | SF          | 0.010          | 0.50            | 1.12         | 1.62         |
| 2" thick .....   | SF          | 0.013          | 0.66            | 1.49         | 2.15         |
| With vapor barrier                                     |             |                |                 |              |              |
| 1-1/2" thick .....                                     | SF          | 0.010          | 0.58            | 1.12         | 1.70         |
| 2" thick .....   | SF          | 0.013          | 0.73            | 1.49         | 2.22         |
| Rigid with vapor barrier                               |             |                |                 |              |              |
| 2" thick .....   | SF          | 0.027          | 3.17            | 2.98         | 6.15         |
| <b>23211.37 STRAINERS</b>                              |             |                |                 |              |              |
| STRAINERS  |             |                |                 |              |              |
| Strainer, Y pattern, 125 psi, cast iron body, threaded |             |                |                 |              |              |
| 3/4" .....   | EA          | 0.286          | 19.25           | 32.00        | 51.25        |
| 250 psi, brass body, threaded                          |             |                |                 |              |              |
| 3/4" .....   | EA          | 0.320          | 36.00           | 35.75        | 71.75        |
| Cast iron body, threaded                               |             |                |                 |              |              |
| 3/4" .....   | EA          | 0.320          | 29.50           | 35.75        | 65.25        |
| <b>23311.30 METAL DUCTWORK</b>                         |             |                |                 |              |              |
| METAL DUCTWORK   |             |                |                 |              |              |
| Rectangular duct                                       |             |                |                 |              |              |
| Galvanized steel                                       |             |                |                 |              |              |
| Minimum .....  | LB          | 0.073          | 0.92            | 8.15         | 9.07         |
| Average .....  | LB          | 0.089          | 1.15            | 9.96         | 11.11        |
| Maximum .....  | LB          | 0.133          | 1.77            | 15.00        | 16.77        |
| Aluminum   |             |                |                 |              |              |
| Minimum .....  | LB          | 0.160          | 2.40            | 18.00        | 20.40        |
| Average .....  | LB          | 0.200          | 3.21            | 22.50        | 25.71        |
| Maximum .....  | LB          | 0.267          | 3.98            | 30.00        | 33.98        |
| Fittings   |             |                |                 |              |              |
| Minimum .....  | EA          | 0.267          | 9.91            | 30.00        | 39.91        |
| Average .....  | EA          | 0.400          | 14.75           | 44.75        | 59.50        |
| Maximum .....  | EA          | 0.800          | 21.75           | 90.00        | 111.75       |
| <b>23331.30 DAMPERS</b>                                |             |                |                 |              |              |
| DAMPERS  |             |                |                 |              |              |
| Horizontal parallel aluminum backdraft damper          |             |                |                 |              |              |
| 12" x 12" .....  | EA          | 0.200          | 58.00           | 22.50        | 80.50        |
| 16" x 16" .....  | EA          | 0.229          | 60.00           | 25.50        | 85.50        |
| <b>23334.60 FLEXIBLE DUCTWORK</b>                      |             |                |                 |              |              |
| FLEXIBLE DUCTWORK                                      |             |                |                 |              |              |
| Flexible duct, 1.25" fiberglass                        |             |                |                 |              |              |
| 5" dia. .....  | LF          | 0.040          | 3.47            | 4.48         | 7.95         |
| 6" dia. .....  | LF          | 0.044          | 3.87            | 4.98         | 8.85         |
| 7" dia. .....  | LF          | 0.047          | 4.77            | 5.27         | 10.04        |
| 8" dia. .....  | LF          | 0.050          | 5.00            | 5.60         | 10.60        |
| 10" dia. .....   | LF          | 0.057          | 6.66            | 6.40         | 13.06        |
| 12" dia. .....   | LF          | 0.062          | 7.28            | 6.89         | 14.17        |
| Flexible duct connector, 3" wide fabric .....          | LF          | 0.133          | 2.43            | 15.00        | 17.43        |
| <b>23340.01 EXHAUST FANS</b>                           |             |                |                 |              |              |
| EXHAUST FANS   |             |                |                 |              |              |
| Belt drive roof exhaust fans                           |             |                |                 |              |              |
| 640 cfm, 2618 fpm .....                                | EA          | 1.000          | 1,480.00        | 110.00       | 1,590.00     |
| 940 cfm, 2604 fpm .....                                | EA          | 1.000          | 1,920.00        | 110.00       | 2,030.00     |
| <b>23371.31 DIFFUSERS</b>                              |             |                |                 |              |              |
| DIFFUSERS  |             |                |                 |              |              |
| Ceiling diffusers, round, baked enamel finish          |             |                |                 |              |              |
| 6" dia. .....  | EA          | 0.267          | 40.25           | 30.00        | 70.25        |
| 8" dia. .....  | EA          | 0.333          | 48.50           | 37.25        | 85.75        |
| 10" dia. .....   | EA          | 0.333          | 54.00           | 37.25        | 91.25        |
| 12" dia. .....   | EA          | 0.333          | 69.00           | 37.25        | 106.25       |
| Rectangular  |             |                |                 |              |              |
| 6x6" .....   | EA          | 0.267          | 43.00           | 30.00        | 73.00        |

## DIVISION 23 HVAC

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>23371.31 DIFFUSERS (Cont.)</u></b>       |             |                |                 |              |              |
| Rectangular                                    |             |                |                 |              |              |
| 9x9"   | EA          | 0.400          | 52.00           | 44.75        | 96.75        |
| 12x12"   | EA          | 0.400          | 76.00           | 44.75        | 120.75       |
| 15x15"   | EA          | 0.400          | 95.00           | 44.75        | 139.75       |
| 18x18"   | EA          | 0.400          | 120.00          | 44.75        | 164.75       |
| <b><u>23371.34 REGISTERS AND GRILLES</u></b>   |             |                |                 |              |              |
| REGISTERS AND GRILLES                          |             |                |                 |              |              |
| Lay in flush mounted, perforated face, return  |             |                |                 |              |              |
| 6x6/24x24                                      | EA          | 0.320          | 62.00           | 35.75        | 97.75        |
| 8x8/24x24                                      | EA          | 0.320          | 62.00           | 35.75        | 97.75        |
| 9x9/24x24                                      | EA          | 0.320          | 67.00           | 35.75        | 102.75       |
| 10x10/24x24                                    | EA          | 0.320          | 72.00           | 35.75        | 107.75       |
| 12x12/24x24                                    | EA          | 0.320          | 72.00           | 35.75        | 107.75       |
| Rectangular, ceiling return, single deflection |             |                |                 |              |              |
| 10x10  | EA          | 0.400          | 32.25           | 44.75        | 77.00        |
| 12x12  | EA          | 0.400          | 37.50           | 44.75        | 82.25        |
| 14x14  | EA          | 0.400          | 45.75           | 44.75        | 90.50        |
| 16x8   | EA          | 0.400          | 37.50           | 44.75        | 82.25        |
| 16x16  | EA          | 0.400          | 37.50           | 44.75        | 82.25        |
| Wall, return air register                      |             |                |                 |              |              |
| 12x12  | EA          | 0.200          | 53.00           | 22.50        | 75.50        |
| 16x16  | EA          | 0.200          | 79.00           | 22.50        | 101.50       |
| 18x18  | EA          | 0.200          | 93.00           | 22.50        | 115.50       |
| Ceiling, return air grille                     |             |                |                 |              |              |
| 6x6  | EA          | 0.267          | 31.00           | 30.00        | 61.00        |
| 8x8  | EA          | 0.320          | 38.50           | 35.75        | 74.25        |
| 10x10  | EA          | 0.320          | 47.75           | 35.75        | 83.50        |
| Ceiling, exhaust grille, aluminum egg crate    |             |                |                 |              |              |
| 6x6  | EA          | 0.267          | 21.25           | 30.00        | 51.25        |
| 8x8  | EA          | 0.320          | 21.25           | 35.75        | 57.00        |
| 10x10  | EA          | 0.320          | 23.50           | 35.75        | 59.25        |
| 12x12  | EA          | 0.400          | 29.00           | 44.75        | 73.75        |
| <b><u>23522.30 BOILERS</u></b>                 |             |                |                 |              |              |
| BOILERS  |             |                |                 |              |              |
| Cast iron, gas fired, hot water                |             |                |                 |              |              |
| 115 mbh  | EA          | 20.000         | 3,150.00        | 2,930.00     | 6,080.00     |
| 175 mbh  | EA          | 21.818         | 3,750.00        | 3,190.00     | 6,940.00     |
| 235 mbh  | EA          | 24.000         | 4,800.00        | 3,510.00     | 8,310.00     |
| Steam  |             |                |                 |              |              |
| 115 mbh  | EA          | 20.000         | 3,810.00        | 2,930.00     | 6,740.00     |
| 175 mbh  | EA          | 21.818         | 4,590.00        | 3,190.00     | 7,780.00     |
| 235 mbh  | EA          | 24.000         | 5,450.00        | 3,510.00     | 8,960.00     |
| Electric, hot water                            |             |                |                 |              |              |
| 115 mbh  | EA          | 12.000         | 5,630.00        | 1,760.00     | 7,390.00     |
| 175 mbh  | EA          | 12.000         | 6,230.00        | 1,760.00     | 7,990.00     |
| 235 mbh  | EA          | 12.000         | 7,110.00        | 1,760.00     | 8,870.00     |
| Steam  |             |                |                 |              |              |
| 115 mbh  | EA          | 12.000         | 7,110.00        | 1,760.00     | 8,870.00     |
| 175 mbh  | EA          | 12.000         | 8,700.00        | 1,760.00     | 10,460.00    |
| 235 mbh  | EA          | 12.000         | 9,500.00        | 1,760.00     | 11,260.00    |
| Oil fired, hot water                           |             |                |                 |              |              |
| 115 mbh  | EA          | 16.000         | 4,150.00        | 2,340.00     | 6,490.00     |
| 175 mbh  | EA          | 18.462         | 5,270.00        | 2,700.00     | 7,970.00     |
| 235 mbh  | EA          | 21.818         | 7,280.00        | 3,190.00     | 10,470.00    |
| Steam  |             |                |                 |              |              |
| 115 mbh  | EA          | 16.000         | 4,150.00        | 2,340.00     | 6,490.00     |
| 175 mbh  | EA          | 18.462         | 5,270.00        | 2,700.00     | 7,970.00     |
| 235 mbh  | EA          | 21.818         | 6,720.00        | 3,190.00     | 9,910.00     |
| <b><u>23541.30 FURNACES</u></b>                |             |                |                 |              |              |
| FURNACES                                       |             |                |                 |              |              |
| Electric, hot air                              |             |                |                 |              |              |
| 40 mbh   | EA          | 4.000          | 1,220.00        | 450.00       | 1,670.00     |
| 60 mbh   | EA          | 4.211          | 1,320.00        | 470.00       | 1,790.00     |
| 80 mbh   | EA          | 4.444          | 1,430.00        | 500.00       | 1,930.00     |

## DIVISION 23 HVAC

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>23541.30 FURNACES (Cont.)</b>                   |             |                |                 |              |              |
| Electric, hot air                                  |             |                |                 |              |              |
| 100 mbh.....                                       | EA          | 4.706          | 1,610.00        | 530.00       | 2,140.00     |
| 125 mbh.....                                       | EA          | 4.848          | 1,970.00        | 540.00       | 2,510.00     |
| Gas fired hot air                                  |             |                |                 |              |              |
| 40 mbh.....  | EA          | 4.000          | 1,120.00        | 450.00       | 1,570.00     |
| 60 mbh.....  | EA          | 4.211          | 1,200.00        | 470.00       | 1,670.00     |
| 80 mbh.....  | EA          | 4.444          | 1,380.00        | 500.00       | 1,880.00     |
| 100 mbh.....                                       | EA          | 4.706          | 1,440.00        | 530.00       | 1,970.00     |
| 125 mbh.....                                       | EA          | 4.848          | 1,580.00        | 540.00       | 2,120.00     |
| Oil fired hot air                                  |             |                |                 |              |              |
| 40 mbh.....  | EA          | 4.000          | 1,500.00        | 450.00       | 1,950.00     |
| 60 mbh.....  | EA          | 4.211          | 2,490.00        | 470.00       | 2,960.00     |
| 80 mbh.....  | EA          | 4.444          | 2,510.00        | 500.00       | 3,010.00     |
| 100 mbh.....                                       | EA          | 4.706          | 2,550.00        | 530.00       | 3,080.00     |
| 125 mbh.....                                       | EA          | 4.848          | 2,640.00        | 540.00       | 3,180.00     |
| <b>23630.01 CONDENSING UNITS</b>                   |             |                |                 |              |              |
| CONDENSING UNITS                                   |             |                |                 |              |              |
| Air cooled condenser, single circuit               |             |                |                 |              |              |
| 3 ton .....  | EA          | 1.333          | 1,990.00        | 150.00       | 2,140.00     |
| 5 ton .....  | EA          | 1.333          | 3,000.00        | 150.00       | 3,150.00     |
| With low ambient dampers                           |             |                |                 |              |              |
| 3 ton .....  | EA          | 2.000          | 2,180.00        | 220.00       | 2,400.00     |
| 5 ton .....  | EA          | 2.000          | 3,430.00        | 220.00       | 3,650.00     |
| <b>23740.01 AIR HANDLING UNITS</b>                 |             |                |                 |              |              |
| AIR HANDLING UNITS                                 |             |                |                 |              |              |
| Air handling unit, medium pressure, single zone    |             |                |                 |              |              |
| 1500 cfm .....                                     | EA          | 5.000          | 4,840.00        | 560.00       | 5,400.00     |
| 3000 cfm .....                                     | EA          | 8.889          | 6,360.00        | 1,000.00     | 7,360.00     |
| Rooftop air handling units                         |             |                |                 |              |              |
| 4950 cfm .....                                     | EA          | 8.889          | 13,910.00       | 1,000.00     | 14,910.00    |
| 7370 cfm .....                                     | EA          | 11.429         | 17,640.00       | 1,280.00     | 18,920.00    |
| <b>23811.32 ROOFTOP UNITS</b>                      |             |                |                 |              |              |
| ROOFTOP UNITS                                      |             |                |                 |              |              |
| Packaged, single zone rooftop unit, with roof curb |             |                |                 |              |              |
| 2 ton .....  | EA          | 8.000          | 4,950.00        | 900.00       | 5,850.00     |
| 3 ton .....  | EA          | 8.000          | 5,200.00        | 900.00       | 6,100.00     |
| 4 ton .....  | EA          | 10.000         | 5,680.00        | 1,120.00     | 6,800.00     |
| <b>23823.60 RADIATION UNITS</b>                    |             |                |                 |              |              |
| RADIATION UNITS                                    |             |                |                 |              |              |
| Baseboard radiation unit                           |             |                |                 |              |              |
| 1.7 mbh/lf .....                                   | LF          | 0.320          | 90.00           | 35.75        | 125.75       |
| 2.1 mbh/lf .....                                   | LF          | 0.400          | 120.00          | 44.75        | 164.75       |
| <b>23823.90 UNIT HEATERS</b>                       |             |                |                 |              |              |
| UNIT HEATERS                                       |             |                |                 |              |              |
| Steam unit heater, horizontal                      |             |                |                 |              |              |
| 12,500 btuh, 200 cfm .....                         | EA          | 1.333          | 680.00          | 150.00       | 830.00       |
| 17,000 btuh, 300 cfm .....                         | EA          | 1.333          | 900.00          | 150.00       | 1,050.00     |
| <b>23833.30 ELECTRIC HEATING</b>                   |             |                |                 |              |              |
| ELECTRIC HEATING                                   |             |                |                 |              |              |
| Baseboard heater                                   |             |                |                 |              |              |
| 2', 375w .....                                     | EA          | 1.000          | 53.00           | 100.00       | 153.00       |
| 3', 500w .....                                     | EA          | 1.000          | 62.00           | 100.00       | 162.00       |
| 4', 750w .....                                     | EA          | 1.143          | 69.00           | 120.00       | 189.00       |
| 5', 935w .....                                     | EA          | 1.333          | 98.00           | 140.00       | 238.00       |
| 6', 1125w .....                                    | EA          | 1.600          | 120.00          | 170.00       | 290.00       |
| 7', 1310w .....                                    | EA          | 1.818          | 130.00          | 190.00       | 320.00       |
| 8', 1500w .....                                    | EA          | 2.000          | 150.00          | 210.00       | 360.00       |
| 9', 1680w .....                                    | EA          | 2.222          | 160.00          | 230.00       | 390.00       |
| 10', 1875w .....                                   | EA          | 2.286          | 220.00          | 240.00       | 460.00       |
| Unit heater, wall mounted                          |             |                |                 |              |              |
| 750w .....   | EA          | 1.600          | 210.00          | 170.00       | 380.00       |
| 1500w .....  | EA          | 1.667          | 280.00          | 170.00       | 450.00       |

## DIVISION 23 HVAC

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>23833.30 ELECTRIC HEATING (Cont.)</u></b> |             |                |                 |              |              |
| Unit heater, wall mounted                       |             |                |                 |              |              |
| Thermostat                                      |             |                |                 |              |              |
| Integral .....                                  | EA .....    | 0.500 .....    | 47.25 .....     | 52.00 .....  | 99.25 .....  |
| Line voltage .....                              | EA .....    | 0.500 .....    | 48.50 .....     | 52.00 .....  | 100.50 ..... |
| Electric heater connection .....                | EA .....    | 0.250 .....    | 2.07 .....      | 26.00 .....  | 28.07 .....  |
| Fittings  |             |                |                 |              |              |
| Inside corner .....                             | EA .....    | 0.400 .....    | 30.50 .....     | 41.75 .....  | 72.25 .....  |
| Outside corner .....                            | EA .....    | 0.400 .....    | 33.25 .....     | 41.75 .....  | 75.00 .....  |
| Receptacle section .....                        | EA .....    | 0.400 .....    | 34.75 .....     | 41.75 .....  | 76.50 .....  |
| Blank section .....                             | EA .....    | 0.400 .....    | 43.00 .....     | 41.75 .....  | 84.75 .....  |
| Radiant ceiling heater panels                   |             |                |                 |              |              |
| 500w .....                                      | EA .....    | 1.000 .....    | 490.00 .....    | 100.00 ..... | 590.00 ..... |
| 750w .....                                      | EA .....    | 1.000 .....    | 540.00 .....    | 100.00 ..... | 640.00 ..... |
| Unit heater thermostat .....                    | EA .....    | 0.533 .....    | 76.00 .....     | 56.00 .....  | 132.00 ..... |
| Mounting bracket .....                          | EA .....    | 0.727 .....    | 78.00 .....     | 76.00 .....  | 154.00 ..... |
| Relay .....                                     | EA .....    | 0.615 .....    | 99.00 .....     | 64.00 .....  | 163.00 ..... |

## DIVISION 26 ELECTRICAL

**Unit    Man-Hrs    Material    Labor    Total**

### **26051.34 COPPER CONDUCTORS**

#### COPPER CONDUCTORS

Copper conductors, type THW, solid

|           |    |                   |            |            |            |
|-----------|----|-------------------|------------|------------|------------|
| #14 ..... | LF | ..... 0.004 ..... | 0.20 ..... | 0.41 ..... | 0.61 ..... |
| #12 ..... | LF | ..... 0.005 ..... | 0.31 ..... | 0.52 ..... | 0.83 ..... |
| #10 ..... | LF | ..... 0.006 ..... | 0.48 ..... | 0.62 ..... | 1.10 ..... |

THHN-THWN, solid

|           |    |                   |            |            |            |
|-----------|----|-------------------|------------|------------|------------|
| #14 ..... | LF | ..... 0.004 ..... | 0.20 ..... | 0.41 ..... | 0.61 ..... |
| #12 ..... | LF | ..... 0.005 ..... | 0.31 ..... | 0.52 ..... | 0.83 ..... |
| #10 ..... | LF | ..... 0.006 ..... | 0.48 ..... | 0.62 ..... | 1.10 ..... |

Stranded

|           |    |                   |            |            |             |
|-----------|----|-------------------|------------|------------|-------------|
| #14 ..... | LF | ..... 0.004 ..... | 0.20 ..... | 0.41 ..... | 0.61 .....  |
| #12 ..... | LF | ..... 0.005 ..... | 0.31 ..... | 0.52 ..... | 0.83 .....  |
| #10 ..... | LF | ..... 0.006 ..... | 0.48 ..... | 0.62 ..... | 1.10 .....  |
| #8 .....  | LF | ..... 0.008 ..... | 0.83 ..... | 0.83 ..... | 1.66 .....  |
| #6 .....  | LF | ..... 0.009 ..... | 1.30 ..... | 0.93 ..... | 2.23 .....  |
| #4 .....  | LF | ..... 0.010 ..... | 2.06 ..... | 1.04 ..... | 3.10 .....  |
| #2 .....  | LF | ..... 0.012 ..... | 2.88 ..... | 1.25 ..... | 4.13 .....  |
| #1 .....  | LF | ..... 0.014 ..... | 3.64 ..... | 1.46 ..... | 5.10 .....  |
| 1/0 ..... | LF | ..... 0.016 ..... | 4.48 ..... | 1.66 ..... | 6.14 .....  |
| 2/0 ..... | LF | ..... 0.020 ..... | 5.54 ..... | 2.08 ..... | 7.62 .....  |
| 3/0 ..... | LF | ..... 0.025 ..... | 6.95 ..... | 2.60 ..... | 9.55 .....  |
| 4/0 ..... | LF | ..... 0.028 ..... | 8.70 ..... | 2.92 ..... | 11.62 ..... |

Bare stranded wire

|          |    |                   |            |            |            |
|----------|----|-------------------|------------|------------|------------|
| #8 ..... | LF | ..... 0.008 ..... | 0.72 ..... | 0.83 ..... | 1.55 ..... |
| #6 ..... | LF | ..... 0.010 ..... | 1.20 ..... | 1.04 ..... | 2.24 ..... |
| #4 ..... | LF | ..... 0.010 ..... | 1.87 ..... | 1.04 ..... | 2.91 ..... |
| #2 ..... | LF | ..... 0.011 ..... | 2.99 ..... | 1.14 ..... | 4.13 ..... |
| #1 ..... | LF | ..... 0.014 ..... | 3.75 ..... | 1.46 ..... | 5.21 ..... |

Type BX solid armored cable

|             |    |                   |            |            |            |
|-------------|----|-------------------|------------|------------|------------|
| #14/2 ..... | LF | ..... 0.025 ..... | 1.37 ..... | 2.60 ..... | 3.97 ..... |
| #14/3 ..... | LF | ..... 0.028 ..... | 2.17 ..... | 2.92 ..... | 5.09 ..... |
| #14/4 ..... | LF | ..... 0.031 ..... | 3.04 ..... | 3.20 ..... | 6.24 ..... |
| #12/2 ..... | LF | ..... 0.028 ..... | 1.41 ..... | 2.92 ..... | 4.33 ..... |
| #12/3 ..... | LF | ..... 0.031 ..... | 2.26 ..... | 3.20 ..... | 5.46 ..... |
| #12/4 ..... | LF | ..... 0.035 ..... | 3.14 ..... | 3.62 ..... | 6.76 ..... |
| #10/2 ..... | LF | ..... 0.031 ..... | 2.62 ..... | 3.20 ..... | 5.82 ..... |
| #10/3 ..... | LF | ..... 0.035 ..... | 3.75 ..... | 3.62 ..... | 7.37 ..... |
| #10/4 ..... | LF | ..... 0.040 ..... | 5.83 ..... | 4.16 ..... | 9.99 ..... |

Steel type, metal clad cable, solid, with ground

|             |    |                   |            |            |            |
|-------------|----|-------------------|------------|------------|------------|
| #14/2 ..... | LF | ..... 0.018 ..... | 1.13 ..... | 1.87 ..... | 3.00 ..... |
| #14/3 ..... | LF | ..... 0.020 ..... | 1.74 ..... | 2.08 ..... | 3.82 ..... |
| #14/4 ..... | LF | ..... 0.023 ..... | 2.34 ..... | 2.38 ..... | 4.72 ..... |
| #12/2 ..... | LF | ..... 0.020 ..... | 1.17 ..... | 2.08 ..... | 3.25 ..... |
| #12/3 ..... | LF | ..... 0.025 ..... | 1.93 ..... | 2.60 ..... | 4.53 ..... |
| #12/4 ..... | LF | ..... 0.030 ..... | 2.60 ..... | 3.14 ..... | 5.74 ..... |
| #10/2 ..... | LF | ..... 0.023 ..... | 2.41 ..... | 2.38 ..... | 4.79 ..... |
| #10/3 ..... | LF | ..... 0.028 ..... | 3.36 ..... | 2.92 ..... | 6.28 ..... |
| #10/4 ..... | LF | ..... 0.033 ..... | 5.22 ..... | 3.47 ..... | 8.69 ..... |

### **26051.35 SHEATHED CABLE**

#### SHEATHED CABLE

Non-metallic sheathed cable

Type NM cable with ground

|             |    |                   |             |            |             |
|-------------|----|-------------------|-------------|------------|-------------|
| #14/2 ..... | LF | ..... 0.015 ..... | 0.45 .....  | 1.55 ..... | 2.00 .....  |
| #12/2 ..... | LF | ..... 0.016 ..... | 0.63 .....  | 1.66 ..... | 2.29 .....  |
| #10/2 ..... | LF | ..... 0.018 ..... | 0.99 .....  | 1.85 ..... | 2.84 .....  |
| #8/2 .....  | LF | ..... 0.020 ..... | 1.62 .....  | 2.08 ..... | 3.70 .....  |
| #6/2 .....  | LF | ..... 0.025 ..... | 2.56 .....  | 2.60 ..... | 5.16 .....  |
| #14/3 ..... | LF | ..... 0.026 ..... | 0.56 .....  | 2.68 ..... | 3.24 .....  |
| #12/3 ..... | LF | ..... 0.027 ..... | 0.90 .....  | 2.77 ..... | 3.67 .....  |
| #10/3 ..... | LF | ..... 0.027 ..... | 1.42 .....  | 2.82 ..... | 4.24 .....  |
| #8/3 .....  | LF | ..... 0.028 ..... | 2.38 .....  | 2.87 ..... | 5.25 .....  |
| #6/3 .....  | LF | ..... 0.028 ..... | 3.85 .....  | 2.92 ..... | 6.77 .....  |
| #4/3 .....  | LF | ..... 0.032 ..... | 7.98 .....  | 3.33 ..... | 11.31 ..... |
| #2/3 .....  | LF | ..... 0.035 ..... | 12.00 ..... | 3.62 ..... | 15.62 ..... |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>26051.35 SHEATHED CABLE (Cont.)</u></b> |             |                |                 |              |              |
| Non-metallic sheathed cable                   |             |                |                 |              |              |
| Type UF cable with ground                     |             |                |                 |              |              |
| #14/2 .....                                   | LF          | 0.016          | 0.52            | 1.66         | 2.18         |
| #12/2 .....                                   | LF          | 0.019          | 0.78            | 1.98         | 2.76         |
| #14/3 .....                                   | LF          | 0.020          | 0.73            | 2.08         | 2.81         |
| #12/3 .....                                   | LF          | 0.022          | 1.11            | 2.28         | 3.39         |
| Type SFU cable, 3 conductor                   |             |                |                 |              |              |
| #8 .....                                      | LF          | 0.028          | 2.24            | 2.92         | 5.16         |
| #6 .....                                      | LF          | 0.031          | 3.91            | 3.20         | 7.11         |
| Type SER cable, 4 conductor                   |             |                |                 |              |              |
| #6 .....                                      | LF          | 0.036          | 5.60            | 3.78         | 9.38         |
| #4 .....                                      | LF          | 0.039          | 7.84            | 4.06         | 11.90        |
| Flexible cord, type STO cord                  |             |                |                 |              |              |
| #18/2 .....                                   | LF          | 0.004          | 0.86            | 0.41         | 1.27         |
| #18/3 .....                                   | LF          | 0.005          | 1.01            | 0.52         | 1.53         |
| #18/4 .....                                   | LF          | 0.006          | 1.40            | 0.62         | 2.02         |
| #16/2 .....                                   | LF          | 0.004          | 0.99            | 0.41         | 1.40         |
| #16/3 .....                                   | LF          | 0.004          | 0.83            | 0.46         | 1.29         |
| #16/4 .....                                   | LF          | 0.005          | 1.17            | 0.52         | 1.69         |
| #14/2 .....                                   | LF          | 0.005          | 1.56            | 0.52         | 2.08         |
| #14/3 .....                                   | LF          | 0.006          | 1.42            | 0.64         | 2.06         |
| #14/4 .....                                   | LF          | 0.007          | 1.75            | 0.72         | 2.47         |
| #12/2 .....                                   | LF          | 0.006          | 1.97            | 0.62         | 2.59         |
| #12/3 .....                                   | LF          | 0.007          | 1.48            | 0.69         | 2.17         |
| #12/4 .....                                   | LF          | 0.008          | 2.15            | 0.83         | 2.98         |
| #10/2 .....                                   | LF          | 0.007          | 2.45            | 0.72         | 3.17         |
| #10/3 .....                                   | LF          | 0.008          | 2.35            | 0.83         | 3.18         |
| #10/4 .....                                   | LF          | 0.009          | 3.63            | 0.93         | 4.56         |
| <b><u>26051.37 ALUMINUM CONDUCTORS</u></b>    |             |                |                 |              |              |
| ALUMINUM CONDUCTORS                           |             |                |                 |              |              |
| Type XHHW, stranded aluminum, 600v            |             |                |                 |              |              |
| #8 .....                                      | LF          | 0.005          | 0.57            | 0.52         | 1.09         |
| #6 .....                                      | LF          | 0.006          | 0.60            | 0.62         | 1.22         |
| #4 .....                                      | LF          | 0.008          | 0.74            | 0.83         | 1.57         |
| #2 .....                                      | LF          | 0.009          | 1.02            | 0.93         | 1.95         |
| 1/0 .....                                     | LF          | 0.011          | 1.61            | 1.14         | 2.75         |
| 2/0 .....                                     | LF          | 0.012          | 2.09            | 1.25         | 3.34         |
| 3/0 .....                                     | LF          | 0.014          | 2.61            | 1.46         | 4.07         |
| 4/0 .....                                     | LF          | 0.015          | 2.91            | 1.55         | 4.46         |
| Type SEU cable                                |             |                |                 |              |              |
| #8/3 .....                                    | LF          | 0.025          | 2.67            | 2.60         | 5.27         |
| #6/3 .....                                    | LF          | 0.028          | 2.67            | 2.92         | 5.59         |
| #4/3 .....                                    | LF          | 0.035          | 3.44            | 3.62         | 7.06         |
| #2/3 .....                                    | LF          | 0.038          | 4.58            | 3.96         | 8.54         |
| #1/3 .....                                    | LF          | 0.040          | 6.21            | 4.16         | 10.37        |
| 1/0-3 .....                                   | LF          | 0.042          | 6.98            | 4.38         | 11.36        |
| 2/0-3 .....                                   | LF          | 0.044          | 8.02            | 4.62         | 12.64        |
| 3/0-3 .....                                   | LF          | 0.052          | 11.25           | 5.37         | 16.62        |
| 4/0-3 .....                                   | LF          | 0.057          | 11.25           | 5.95         | 17.20        |
| Type SER cable with ground                    |             |                |                 |              |              |
| #8/3 .....                                    | LF          | 0.028          | 2.91            | 2.92         | 5.83         |
| #6/3 .....                                    | LF          | 0.035          | 3.29            | 3.62         | 6.91         |
| <b><u>26052.34 CONTROL CABLE</u></b>          |             |                |                 |              |              |
| CONTROL CABLE                                 |             |                |                 |              |              |
| Control cable, 600v, #14 THWN, PVC jacket     |             |                |                 |              |              |
| 2 wire .....                                  | LF          | 0.008          | 0.65            | 0.83         | 1.48         |
| 4 wire .....                                  | LF          | 0.010          | 1.10            | 1.04         | 2.14         |
| <b><u>26052.61 GROUNDING</u></b>              |             |                |                 |              |              |
| GROUNDING                                     |             |                |                 |              |              |
| Ground rods, copper clad, 1/2" x              |             |                |                 |              |              |
| 6' .....                                      | EA          | 0.667          | 22.75           | 69.00        | 91.75        |
| 8' .....                                      | EA          | 0.727          | 31.25           | 76.00        | 107.25       |

## DIVISION 26 ELECTRICAL

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>26052.61 GROUNDING (Cont.)</b>                        |             |                |                 |              |              |
| Ground rods, copper clad, 1/2" x 5/8"                    |             |                |                 |              |              |
| 6' .....   | EA          | 0.727          | 29.75           | 76.00        | 105.75       |
| 8' .....   | EA          | 1.000          | 38.50           | 100.00       | 138.50       |
| Ground rod clamp 5/8"                                    |             |                |                 |              |              |
| Ground rod couplings 1/2" .....                          | EA          | 0.100          | 20.50           | 10.50        | 31.00        |
| 5/8" .....   | EA          | 0.100          | 28.75           | 10.50        | 39.25        |
| Ground rod, driving stud 1/2" .....                      | EA          | 0.100          | 13.00           | 10.50        | 23.50        |
| 5/8" .....   | EA          | 0.100          | 15.50           | 10.50        | 26.00        |
| Ground rod clamps, #8-2 to 1" pipe .....                 | EA          | 0.200          | 14.75           | 20.75        | 35.50        |
| 2" pipe .....  | EA          | 0.250          | 18.50           | 26.00        | 44.50        |
| <b>26052.92 CONDUIT SPECIALTIES</b>                      |             |                |                 |              |              |
| CONDUIT SPECIALTIES                                      |             |                |                 |              |              |
| Rod beam clamp, 1/2"                                     |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 9.72            | 5.20         | 14.92        |
| Hanger rod 3/8"  |             |                |                 |              |              |
| LF .....   | LF          | 0.040          | 2.35            | 4.16         | 6.51         |
| 1/2"   |             |                |                 |              |              |
| LF .....   | LF          | 0.050          | 5.88            | 5.20         | 11.08        |
| All thread rod 1/4"                                      |             |                |                 |              |              |
| LF .....   | LF          | 0.030          | 0.76            | 3.14         | 3.90         |
| 3/8"   |             |                |                 |              |              |
| LF .....   | LF          | 0.040          | 0.86            | 4.16         | 5.02         |
| 1/2"   |             |                |                 |              |              |
| LF .....   | LF          | 0.050          | 1.61            | 5.20         | 6.81         |
| 5/8" .....   | LF          | 0.080          | 2.83            | 8.33         | 11.16        |
| Hanger channel, 1-1/2"                                   |             |                |                 |              |              |
| No holes .....   | EA          | 0.030          | 6.47            | 3.14         | 9.61         |
| Holes .....  | EA          | 0.030          | 8.00            | 3.14         | 11.14        |
| Channel strap 1/2"                                       |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 2.01            | 5.20         | 7.21         |
| 3/4"   |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 2.71            | 5.20         | 7.91         |
| Conduit penetrations, roof and wall, 8" thick 1/2" ..... | EA          | 0.615          | 64.00           | 64.00        |              |
| 3/4" .....   | EA          | 0.615          | 64.00           | 64.00        |              |
| 1" .....   | EA          | 0.800          | 83.00           | 83.00        |              |
| Threaded rod couplings 1/4"                              |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 2.59            | 5.20         | 7.79         |
| 3/8"   |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 2.74            | 5.20         | 7.94         |
| 1/2"   |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 3.09            | 5.20         | 8.29         |
| 5/8" .....   | EA          | 0.050          | 4.75            | 5.20         | 9.95         |
| 3/4" .....   | EA          | 0.050          | 5.20            | 5.20         | 10.40        |
| Hex nuts, 1/4" .....                                     | EA          | 0.050          | 0.21            | 5.20         | 5.41         |
| 3/8" .....   | EA          | 0.050          | 0.32            | 5.20         | 5.52         |
| 1/2" .....   | EA          | 0.050          | 0.69            | 5.20         | 5.89         |
| 5/8" .....   | EA          | 0.050          | 1.50            | 5.20         | 6.70         |
| 3/4" .....   | EA          | 0.050          | 1.98            | 5.20         | 7.18         |
| Square nuts 1/4"   |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 0.18            | 5.20         | 5.38         |
| 3/8"   |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 0.36            | 5.20         | 5.56         |
| 1/2"   |             |                |                 |              |              |
| EA .....   | EA          | 0.050          | 0.61            | 5.20         | 5.81         |
| 5/8" .....   | EA          | 0.050          | 0.81            | 5.20         | 6.01         |
| 3/4" .....   | EA          | 0.050          | 1.43            | 5.20         | 6.63         |
| Flat washers, material only 1/4"                         |             |                |                 |              |              |
| EA .....   | EA          |                |                 |              | 0.21         |
| 3/8" .....   | EA          |                |                 |              | 0.29         |
| 1/2" .....   | EA          |                |                 |              | 0.40         |
| 5/8" .....   | EA          |                |                 |              | 0.81         |
| 3/4" .....   | EA          |                |                 |              | 1.14         |
| Lockwashers 1/4"   |             |                |                 |              |              |
| EA .....   | EA          |                |                 |              | 0.13         |
| 3/8" .....   | EA          |                |                 |              | 0.22         |
| 1/2" .....   | EA          |                |                 |              | 0.28         |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>26052.92 CONDUIT SPECIALTIES (Cont.)</b> |             |                |                 |              |              |
| Lockwashers                                 |             |                |                 |              |              |
| 5/8"  | EA          |                |                 |              | 0.48         |
| 3/4"  | EA          |                |                 |              | 0.81         |
| <b>26053.34 SURFACE MOUNTED RACEWAY</b>     |             |                |                 |              |              |
| SURFACE MOUNTED RACEWAY                     |             |                |                 |              |              |
| Single Raceway                              |             |                |                 |              |              |
| 3/4" x 17/32" Conduit                       | LF          | 0.040          | 2.78            | 4.16         | 6.94         |
| Mounting Strap                              | EA          | 0.053          | 0.75            | 5.55         | 6.30         |
| Connector                                   | EA          | 0.053          | 1.00            | 5.55         | 6.55         |
| Elbow                                       |             |                |                 |              |              |
| 45 degree                                   | EA          | 0.050          | 12.75           | 5.20         | 17.95        |
| 90 degree                                   | EA          | 0.050          | 4.05            | 5.20         | 9.25         |
| internal                                    | EA          | 0.050          | 5.09            | 5.20         | 10.29        |
| external                                    | EA          | 0.050          | 4.71            | 5.20         | 9.91         |
| Switch                                      | EA          | 0.400          | 33.00           | 41.75        | 74.75        |
| Utility Box                                 | EA          | 0.400          | 22.25           | 41.75        | 64.00        |
| Receptacle                                  | EA          | 0.400          | 39.00           | 41.75        | 80.75        |
| 3/4" x 21/32" Conduit                       | LF          | 0.040          | 3.17            | 4.16         | 7.33         |
| Mounting Strap                              | EA          | 0.053          | 1.17            | 5.55         | 6.72         |
| Connector                                   | EA          | 0.053          | 1.20            | 5.55         | 6.75         |
| Elbow                                       |             |                |                 |              |              |
| 45 degree                                   | EA          | 0.050          | 9.41            | 5.20         | 14.61        |
| 90 degree                                   | EA          | 0.050          | 3.49            | 5.20         | 8.69         |
| internal                                    | EA          | 0.050          | 4.73            | 5.20         | 9.93         |
| external                                    | EA          | 0.050          | 4.73            | 5.20         | 9.93         |
| Switch                                      | EA          | 0.400          | 26.75           | 41.75        | 68.50        |
| Utility Box                                 | EA          | 0.400          | 18.00           | 41.75        | 59.75        |
| Receptacle                                  | EA          | 0.400          | 31.50           | 41.75        | 73.25        |
| <b>26053.38 BOXES</b>                       |             |                |                 |              |              |
| BOXES                                       |             |                |                 |              |              |
| Round cast box, type SEH                    |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 41.25           | 36.25        | 77.50        |
| 3/4"  | EA          | 0.421          | 41.25           | 43.75        | 85.00        |
| SEHC  |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 49.25           | 36.25        | 85.50        |
| 3/4"  | EA          | 0.421          | 49.25           | 43.75        | 93.00        |
| SEHL  |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 51.00           | 36.25        | 87.25        |
| 3/4"  | EA          | 0.444          | 49.25           | 46.25        | 95.50        |
| SEHT  |             |                |                 |              |              |
| 1/2"  | EA          | 0.421          | 54.00           | 43.75        | 97.75        |
| 3/4"  | EA          | 0.500          | 54.00           | 52.00        | 106.00       |
| SEHX  |             |                |                 |              |              |
| 1/2"  | EA          | 0.500          | 59.00           | 52.00        | 111.00       |
| 3/4"  | EA          | 0.615          | 59.00           | 64.00        | 123.00       |
| Blank cover                                 | EA          | 0.145          | 9.98            | 15.25        | 25.23        |
| 1/2", hub cover                             | EA          | 0.145          | 9.54            | 15.25        | 24.79        |
| Cover with gasket                           | EA          | 0.178          | 10.50           | 18.50        | 29.00        |
| Rectangle, type FS boxes                    |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 21.50           | 36.25        | 57.75        |
| 3/4"  | EA          | 0.400          | 22.50           | 41.75        | 64.25        |
| 1"  | EA          | 0.500          | 24.50           | 52.00        | 76.50        |
| FSA   |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 38.00           | 36.25        | 74.25        |
| 3/4"  | EA          | 0.400          | 35.50           | 41.75        | 77.25        |
| FSC   |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 23.75           | 36.25        | 60.00        |
| 3/4"  | EA          | 0.421          | 26.00           | 43.75        | 69.75        |
| 1"  | EA          | 0.500          | 32.25           | 52.00        | 84.25        |
| FSL   |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 38.00           | 36.25        | 74.25        |
| 3/4"  | EA          | 0.400          | 37.75           | 41.75        | 79.50        |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.38 BOXES (Cont.)</b>                       |             |                |                 |              |              |
| Rectangle, type FS boxes                            |             |                |                 |              |              |
| FSR   |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 39.50           | 36.25        | 75.75        |
| 3/4"  | EA          | 0.400          | 40.00           | 41.75        | 81.75        |
| FSS   |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 23.75           | 36.25        | 60.00        |
| 3/4"  | EA          | 0.400          | 26.00           | 41.75        | 67.75        |
| FSLA  |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 16.25           | 36.25        | 52.50        |
| 3/4"  | EA          | 0.400          | 18.25           | 41.75        | 60.00        |
| FSCA  |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 47.75           | 36.25        | 84.00        |
| 3/4"  | EA          | 0.400          | 46.00           | 41.75        | 87.75        |
| FSCC  |             |                |                 |              |              |
| 1/2"  | EA          | 0.400          | 29.00           | 41.75        | 70.75        |
| 3/4"  | EA          | 0.500          | 43.25           | 52.00        | 95.25        |
| FSCT  |             |                |                 |              |              |
| 1/2"  | EA          | 0.400          | 29.00           | 41.75        | 70.75        |
| 3/4"  | EA          | 0.500          | 36.00           | 52.00        | 88.00        |
| 1"  | EA          | 0.571          | 29.50           | 60.00        | 89.50        |
| FST   |             |                |                 |              |              |
| 1/2"  | EA          | 0.500          | 42.50           | 52.00        | 94.50        |
| 3/4"  | EA          | 0.571          | 42.50           | 60.00        | 102.50       |
| FSX   |             |                |                 |              |              |
| 1/2"  | EA          | 0.615          | 48.50           | 64.00        | 112.50       |
| 3/4"  | EA          | 0.727          | 44.75           | 76.00        | 120.75       |
| FSCD boxes  |             |                |                 |              |              |
| 1/2"  | EA          | 0.615          | 40.50           | 64.00        | 104.50       |
| 3/4"  | EA          | 0.727          | 42.50           | 76.00        | 118.50       |
| Rectangle, type FS, 2 gang boxes                    |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 45.25           | 36.25        | 81.50        |
| 3/4"  | EA          | 0.400          | 46.75           | 41.75        | 88.50        |
| 1"  | EA          | 0.500          | 49.25           | 52.00        | 101.25       |
| FSC, 2 gang boxes                                   |             |                |                 |              |              |
| 1/2"  | EA          | 0.348          | 48.00           | 36.25        | 84.25        |
| 3/4"  | EA          | 0.400          | 53.00           | 41.75        | 94.75        |
| 1"  | EA          | 0.500          | 65.00           | 52.00        | 117.00       |
| FSS, 2 gang boxes                                   |             |                |                 |              |              |
| 3/4"  | EA          | 0.400          | 50.00           | 41.75        | 91.75        |
| FS, tandem boxes                                    |             |                |                 |              |              |
| 1/2"  | EA          | 0.400          | 50.00           | 41.75        | 91.75        |
| 3/4"  | EA          | 0.444          | 51.00           | 46.25        | 97.25        |
| FSC, tandem boxes                                   |             |                |                 |              |              |
| 1/2"  | EA          | 0.400          | 68.00           | 41.75        | 109.75       |
| 3/4"  | EA          | 0.444          | 72.00           | 46.25        | 118.25       |
| FS, three gang boxes                                |             |                |                 |              |              |
| 3/4"  | EA          | 0.444          | 74.00           | 46.25        | 120.25       |
| 1"  | EA          | 0.500          | 81.00           | 52.00        | 133.00       |
| FSS, three gang boxes, 3/4"                         | EA          | 0.500          | 95.00           | 52.00        | 147.00       |
| Weatherproof cast aluminum boxes, 1 gang, 3 outlets |             |                |                 |              |              |
| 1/2"  | EA          | 0.400          | 11.25           | 41.75        | 53.00        |
| 3/4"  | EA          | 0.500          | 12.25           | 52.00        | 64.25        |
| 2 gang, 3 outlets                                   |             |                |                 |              |              |
| 1/2"  | EA          | 0.500          | 21.50           | 52.00        | 73.50        |
| 3/4"  | EA          | 0.533          | 23.00           | 56.00        | 79.00        |
| 1 gang, 4 outlets                                   |             |                |                 |              |              |
| 1/2"  | EA          | 0.615          | 19.50           | 64.00        | 83.50        |
| 3/4"  | EA          | 0.727          | 21.50           | 76.00        | 97.50        |
| 2 gang, 4 outlets                                   |             |                |                 |              |              |
| 1/2"  | EA          | 0.615          | 20.50           | 64.00        | 84.50        |
| 3/4"  | EA          | 0.727          | 22.75           | 76.00        | 98.75        |
| 1 gang, 5 outlets                                   |             |                |                 |              |              |
| 1/2"  | EA          | 0.727          | 16.25           | 76.00        | 92.25        |
| 3/4"  | EA          | 0.800          | 19.25           | 83.00        | 102.25       |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.38 BOXES (Cont.)</b>                       |             |                |                 |              |              |
| Weatherproof cast aluminum boxes, 1 gang, 3 outlets |             |                |                 |              |              |
| 2 gang, 5 outlets                                   |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.727          | 29.25           | 76.00        | 105.25       |
| 3/4" .....  | EA          | 0.800          | 35.50           | 83.00        | 118.50       |
| 2 gang, 6 outlets                                   |             |                |                 |              |              |
| 1/2" .....  | EA          | 0.851          | 33.25           | 89.00        | 122.25       |
| 3/4" .....  | EA          | 0.899          | 35.50           | 94.00        | 129.50       |
| 2 gang, 7 outlets                                   |             |                |                 |              |              |
| 1/2" .....  | EA          | 1.000          | 35.25           | 100.00       | 135.25       |
| 3/4" .....  | EA          | 1.096          | 44.00           | 110.00       | 154.00       |
| Weatherproof and type FS box covers, blank, 1 gang  |             |                |                 |              |              |
| Tumbler switch, 1 gang                              |             |                |                 |              |              |
| EA .....  | EA          | 0.145          | 5.12            | 15.25        | 20.37        |
| 1 gang, single recept                               |             |                |                 |              |              |
| EA .....  | EA          | 0.145          | 6.63            | 15.25        | 21.88        |
| Duplex recept                                       |             |                |                 |              |              |
| EA .....  | EA          | 0.145          | 8.45            | 15.25        | 23.70        |
| Despard   |             |                |                 |              |              |
| EA .....  | EA          | 0.145          | 8.48            | 15.25        | 23.73        |
| Red pilot light                                     |             |                |                 |              |              |
| EA .....  | EA          | 0.145          | 40.00           | 15.25        | 55.25        |
| SW and  |             |                |                 |              |              |
| Single recept                                       |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 17.75           | 20.75        | 38.50        |
| Duplex recept                                       |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 14.50           | 20.75        | 35.25        |
| 2 gang  |             |                |                 |              |              |
| Blank   |             |                |                 |              |              |
| EA .....  | EA          | 0.182          | 5.32            | 19.00        | 24.32        |
| Tumbler switch                                      |             |                |                 |              |              |
| EA .....  | EA          | 0.182          | 7.00            | 19.00        | 26.00        |
| Single recept                                       |             |                |                 |              |              |
| EA .....  | EA          | 0.182          | 7.00            | 19.00        | 26.00        |
| Duplex recept                                       |             |                |                 |              |              |
| EA .....  | EA          | 0.182          | 7.00            | 19.00        | 26.00        |
| 3 gang  |             |                |                 |              |              |
| Blank   |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 12.25           | 20.75        | 33.00        |
| Tumbler switch                                      |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 15.25           | 20.75        | 36.00        |
| 4 gang  |             |                |                 |              |              |
| Tumbler switch                                      |             |                |                 |              |              |
| EA .....  | EA          | 0.250          | 19.25           | 26.00        | 45.25        |
| Box covers  |             |                |                 |              |              |
| Surface   |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 27.00           | 20.75        | 47.75        |
| Sealing   |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 29.25           | 20.75        | 50.00        |
| Dome  |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 40.50           | 20.75        | 61.25        |
| 1/2" nipple   |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 52.00           | 20.75        | 72.75        |
| 3/4" nipple   |             |                |                 |              |              |
| EA .....  | EA          | 0.200          | 53.00           | 20.75        | 73.75        |

### **26053.39 PULL AND JUNCTION BOXES**

|  |    |       |       |       |       |
|--|----|-------|-------|-------|-------|
| PULL AND JUNCTION BOXES                            |    |       |       |       |       |
| 4"   |    |       |       |       |       |
| Octagon box .....                                  | EA | 0.114 | 5.67  | 12.00 | 17.67 |
| Box extension .....                                | EA | 0.059 | 9.55  | 6.17  | 15.72 |
| Plaster ring .....                                 | EA | 0.059 | 5.24  | 6.17  | 11.41 |
| Cover blank .....                                  | EA | 0.059 | 2.31  | 6.17  | 8.48  |
| Square box .....                                   | EA | 0.114 | 8.16  | 12.00 | 20.16 |
| Box extension .....                                | EA | 0.059 | 8.00  | 6.17  | 14.17 |
| Plaster ring .....                                 | EA | 0.059 | 4.38  | 6.17  | 10.55 |
| Cover blank .....                                  | EA | 0.059 | 2.24  | 6.17  | 8.41  |
| Switch and device boxes                            |    |       |       |       |       |
| 2 gang .....                                       | EA | 0.114 | 24.75 | 12.00 | 36.75 |
| 3 gang .....                                       | EA | 0.114 | 43.50 | 12.00 | 55.50 |
| 4 gang .....                                       | EA | 0.160 | 58.00 | 16.75 | 74.75 |
| Device covers                                      |    |       |       |       |       |
| 2 gang .....                                       | EA | 0.059 | 19.75 | 6.17  | 25.92 |
| 3 gang .....                                       | EA | 0.059 | 20.25 | 6.17  | 26.42 |
| 4 gang .....                                       | EA | 0.059 | 27.50 | 6.17  | 33.67 |
| Handy box .....                                    | EA | 0.114 | 6.08  | 12.00 | 18.08 |
| Extension .....                                    | EA | 0.059 | 5.73  | 6.17  | 11.90 |
| Switch cover .....                                 | EA | 0.059 | 3.04  | 6.17  | 9.21  |
| Switch box with knockout .....                     | EA | 0.145 | 9.14  | 15.25 | 24.39 |
| Weatherproof cover, spring type .....              | EA | 0.080 | 17.00 | 8.33  | 25.33 |
| Cover plate, dryer receptacle 1 gang plastic ..... | EA | 0.100 | 2.59  | 10.50 | 13.09 |
| For 4" receptacle, 2 gang .....                    | EA | 0.100 | 4.63  | 10.50 | 15.13 |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.39 PULL AND JUNCTION BOXES (Cont.)</b> |             |                |                 |              |              |
| Duplex receptacle cover plate, plastic .....    | EA          | 0.059          | 1.14            | 6.17         | 7.31         |
| 4", vertical bracket box, 1-1/2" with           |             |                |                 |              |              |
| RMX clamps .....                                | EA          | 0.145          | 11.75           | 15.25        | 27.00        |
| BX clamps .....                                 | EA          | 0.145          | 12.75           | 15.25        | 28.00        |
| 4", octagon device cover                        |             |                |                 |              |              |
| 1 switch .....                                  | EA          | 0.059          | 6.91            | 6.17         | 13.08        |
| 1 duplex recept .....                           | EA          | 0.059          | 6.91            | 6.17         | 13.08        |
| 4", octagon swivel hanger box, 1/2" hub .....   | EA          | 0.059          | 18.50           | 6.17         | 24.67        |
| 3/4" hub .....                                  | EA          | 0.059          | 21.00           | 6.17         | 27.17        |
| 4" octagon adjustable bar hangers               |             |                |                 |              |              |
| 18-1/2" .....                                   | EA          | 0.050          | 8.58            | 5.20         | 13.78        |
| 26-1/2" .....                                   | EA          | 0.050          | 9.37            | 5.20         | 14.57        |
| With clip                                       |             |                |                 |              |              |
| 18-1/2" .....                                   | EA          | 0.050          | 6.35            | 5.20         | 11.55        |
| 26-1/2" .....                                   | EA          | 0.050          | 7.12            | 5.20         | 12.32        |
| 4", square face bracket boxes, 1-1/2"           |             |                |                 |              |              |
| RMX .....                                       | EA          | 0.145          | 14.00           | 15.25        | 29.25        |
| BX .....  | EA          | 0.145          | 15.25           | 15.25        | 30.50        |
| 4" square to round plaster rings .....          | EA          | 0.059          | 4.67            | 6.17         | 10.84        |
| 2 gang device plaster rings .....               | EA          | 0.059          | 4.82            | 6.17         | 10.99        |
| Surface covers                                  |             |                |                 |              |              |
| 1 gang switch .....                             | EA          | 0.059          | 4.21            | 6.17         | 10.38        |
| 2 gang switch .....                             | EA          | 0.059          | 4.31            | 6.17         | 10.48        |
| 1 single recept .....                           | EA          | 0.059          | 6.35            | 6.17         | 12.52        |
| 1 20a twist lock recept .....                   | EA          | 0.059          | 7.93            | 6.17         | 14.10        |
| 1 30a twist lock recept .....                   | EA          | 0.059          | 10.25           | 6.17         | 16.42        |
| 1 duplex recept .....                           | EA          | 0.059          | 3.93            | 6.17         | 10.10        |
| 2 duplex recept .....                           | EA          | 0.059          | 3.93            | 6.17         | 10.10        |
| Switch and duplex recept .....                  | EA          | 0.059          | 6.56            | 6.17         | 12.73        |
| 4" plastic round boxes, ground straps           |             |                |                 |              |              |
| Box only .....                                  | EA          | 0.145          | 2.99            | 15.25        | 18.24        |
| Box w/clamps .....                              | EA          | 0.200          | 3.48            | 20.75        | 24.23        |
| Box w/16" bar .....                             | EA          | 0.229          | 7.39            | 23.75        | 31.14        |
| Box w/24" bar .....                             | EA          | 0.250          | 7.37            | 26.00        | 33.37        |
| 4" plastic round box covers                     |             |                |                 |              |              |
| Blank cover .....                               | EA          | 0.059          | 1.95            | 6.17         | 8.12         |
| Plaster ring .....                              | EA          | 0.059          | 3.19            | 6.17         | 9.36         |
| 4" plastic square boxes                         |             |                |                 |              |              |
| Box only .....                                  | EA          | 0.145          | 2.31            | 15.25        | 17.56        |
| Box w/clamps .....                              | EA          | 0.200          | 2.86            | 20.75        | 23.61        |
| Box w/hanger .....                              | EA          | 0.250          | 3.52            | 26.00        | 29.52        |
| Box w/nails and clamp .....                     | EA          | 0.250          | 5.04            | 26.00        | 31.04        |
| 4" plastic square box covers                    |             |                |                 |              |              |
| Blank cover .....                               | EA          | 0.059          | 1.90            | 6.17         | 8.07         |
| 1 gang ring .....                               | EA          | 0.059          | 2.31            | 6.17         | 8.48         |
| 2 gang ring .....                               | EA          | 0.059          | 3.24            | 6.17         | 9.41         |
| Round ring .....                                | EA          | 0.059          | 2.57            | 6.17         | 8.74         |
| <b>26053.41 ALUMINUM CONDUIT</b>                |             |                |                 |              |              |
| ALUMINUM CONDUIT                                |             |                |                 |              |              |
| Aluminum conduit                                |             |                |                 |              |              |
| 1/2" .....                                      | LF          | 0.030          | 2.80            | 3.14         | 5.94         |
| 3/4" .....                                      | LF          | 0.040          | 3.59            | 4.16         | 7.75         |
| 1" .....  | LF          | 0.050          | 5.03            | 5.20         | 10.23        |
| 90 deg. elbow                                   |             |                |                 |              |              |
| 1/2" .....                                      | EA          | 0.190          | 21.50           | 19.75        | 41.25        |
| 3/4" .....                                      | EA          | 0.250          | 29.25           | 26.00        | 55.25        |
| 1" .....  | EA          | 0.308          | 40.75           | 32.00        | 72.75        |
| Coupling  |             |                |                 |              |              |
| 1/2" .....                                      | EA          | 0.050          | 4.40            | 5.20         | 9.60         |
| 3/4" .....                                      | EA          | 0.059          | 6.66            | 6.17         | 12.83        |
| 1" .....  | EA          | 0.080          | 8.79            | 8.33         | 17.12        |

## DIVISION 26 ELECTRICAL

|                                   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-----------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.42 EMT CONDUIT</b>       |             |                |                 |              |              |
| EMT CONDUIT                       |             |                |                 |              |              |
| EMT conduit                       |             |                |                 |              |              |
| 1/2"                              | LF          | 0.030          | 0.76            | 3.14         | 3.90         |
| 3/4"                              | LF          | 0.040          | 1.40            | 4.16         | 5.56         |
| 1"                                | LF          | 0.050          | 2.33            | 5.20         | 7.53         |
| 90 deg. elbow                     |             |                |                 |              |              |
| 1/2"                              | EA          | 0.089          | 6.12            | 9.25         | 15.37        |
| 3/4"                              | EA          | 0.100          | 6.72            | 10.50        | 17.22        |
| 1"                                | EA          | 0.107          | 10.25           | 11.00        | 21.25        |
| Connector, steel compression      |             |                |                 |              |              |
| 1/2"                              | EA          | 0.089          | 1.87            | 9.25         | 11.12        |
| 3/4"                              | EA          | 0.089          | 3.58            | 9.25         | 12.83        |
| 1"                                | EA          | 0.089          | 5.39            | 9.25         | 14.64        |
| Coupling, steel, compression      |             |                |                 |              |              |
| 1/2"                              | EA          | 0.059          | 3.18            | 6.17         | 9.35         |
| 3/4"                              | EA          | 0.059          | 4.33            | 6.17         | 10.50        |
| 1"                                | EA          | 0.059          | 6.55            | 6.17         | 12.72        |
| 1 hole strap, steel               |             |                |                 |              |              |
| 1/2"                              | EA          | 0.040          | 0.21            | 4.16         | 4.37         |
| 3/4"                              | EA          | 0.040          | 0.26            | 4.16         | 4.42         |
| 1"                                | EA          | 0.040          | 0.40            | 4.16         | 4.56         |
| Connector, steel set screw        |             |                |                 |              |              |
| 1/2"                              | EA          | 0.070          | 1.68            | 7.24         | 8.92         |
| 3/4"                              | EA          | 0.070          | 2.69            | 7.24         | 9.93         |
| 1"                                | EA          | 0.070          | 4.65            | 7.24         | 11.89        |
| Insulated throat                  |             |                |                 |              |              |
| 1/2"                              | EA          | 0.070          | 1.89            | 7.24         | 9.13         |
| 3/4"                              | EA          | 0.070          | 3.08            | 7.24         | 10.32        |
| 1"                                | EA          | 0.070          | 5.08            | 7.24         | 12.32        |
| Connector, die cast set screw     |             |                |                 |              |              |
| 1/2"                              | EA          | 0.059          | 1.15            | 6.17         | 7.32         |
| 3/4"                              | EA          | 0.059          | 1.96            | 6.17         | 8.13         |
| 1"                                | EA          | 0.059          | 3.69            | 6.17         | 9.86         |
| Insulated throat                  |             |                |                 |              |              |
| 1/2"                              | EA          | 0.059          | 2.45            | 6.17         | 8.62         |
| 3/4"                              | EA          | 0.059          | 3.96            | 6.17         | 10.13        |
| 1"                                | EA          | 0.059          | 6.90            | 6.17         | 13.07        |
| Coupling, steel set screw         |             |                |                 |              |              |
| 1/2"                              | EA          | 0.040          | 2.58            | 4.16         | 6.74         |
| 3/4"                              | EA          | 0.040          | 3.88            | 4.16         | 8.04         |
| 1"                                | EA          | 0.040          | 6.29            | 4.16         | 10.45        |
| Diecast set screw                 |             |                |                 |              |              |
| 1/2"                              | EA          | 0.040          | 1.06            | 4.16         | 5.22         |
| 3/4"                              | EA          | 0.040          | 1.71            | 4.16         | 5.87         |
| 1"                                | EA          | 0.040          | 2.83            | 4.16         | 6.99         |
| 1 hole malleable straps           |             |                |                 |              |              |
| 1/2"                              | EA          | 0.040          | 0.49            | 4.16         | 4.65         |
| 3/4"                              | EA          | 0.040          | 0.67            | 4.16         | 4.83         |
| 1"                                | EA          | 0.040          | 1.11            | 4.16         | 5.27         |
| EMT to rigid compression coupling |             |                |                 |              |              |
| 1/2"                              | EA          | 0.100          | 5.72            | 10.50        | 16.22        |
| 3/4"                              | EA          | 0.100          | 8.16            | 10.50        | 18.66        |
| 1"                                | EA          | 0.150          | 12.50           | 15.50        | 28.00        |
| Set screw couplings               |             |                |                 |              |              |
| 1/2"                              | EA          | 0.100          | 1.50            | 10.50        | 12.00        |
| 3/4"                              | EA          | 0.100          | 2.26            | 10.50        | 12.76        |
| 1"                                | EA          | 0.145          | 3.78            | 15.25        | 19.03        |
| Set screw offset connectors       |             |                |                 |              |              |
| 1/2"                              | EA          | 0.100          | 3.35            | 10.50        | 13.85        |
| 3/4"                              | EA          | 0.100          | 4.51            | 10.50        | 15.01        |
| 1"                                | EA          | 0.145          | 8.17            | 15.25        | 23.42        |
| Compression offset connectors     |             |                |                 |              |              |
| 1/2"                              | EA          | 0.100          | 5.53            | 10.50        | 16.03        |
| 3/4"                              | EA          | 0.100          | 7.01            | 10.50        | 17.51        |
| 1"                                | EA          | 0.145          | 10.25           | 15.25        | 25.50        |

## DIVISION 26 ELECTRICAL

|                                      | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.42 EMT CONDUIT (Cont.)</b>  |             |                |                 |              |              |
| EMT conduit                          |             |                |                 |              |              |
| Type LB set screw condulets          |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.229          | 15.75           | 23.75        | 39.50        |
| 3/4"                                 | EA          | 0.296          | 19.25           | 30.75        | 50.00        |
| 1"                                   | EA          | 0.381          | 29.25           | 39.75        | 69.00        |
| Type T set screw condulets           |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.296          | 16.75           | 30.75        | 47.50        |
| 3/4"                                 | EA          | 0.400          | 21.00           | 41.75        | 62.75        |
| 1"                                   | EA          | 0.444          | 30.25           | 46.25        | 76.50        |
| Type C set screw condulets           |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.250          | 14.00           | 26.00        | 40.00        |
| 3/4"                                 | EA          | 0.296          | 17.50           | 30.75        | 48.25        |
| 1"                                   | EA          | 0.381          | 26.25           | 39.75        | 66.00        |
| Type LL set screw condulets          |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.250          | 14.00           | 26.00        | 40.00        |
| 3/4"                                 | EA          | 0.296          | 17.25           | 30.75        | 48.00        |
| 1"                                   | EA          | 0.381          | 26.00           | 39.75        | 65.75        |
| Type LR set screw condulets          |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.250          | 14.00           | 26.00        | 40.00        |
| 3/4"                                 | EA          | 0.296          | 17.25           | 30.75        | 48.00        |
| 1"                                   | EA          | 0.381          | 26.00           | 39.75        | 65.75        |
| Type LB compression condulets        |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.296          | 31.50           | 30.75        | 62.25        |
| 3/4"                                 | EA          | 0.500          | 46.75           | 52.00        | 98.75        |
| 1"                                   | EA          | 0.500          | 60.00           | 52.00        | 112.00       |
| Type T compression condulets         |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.400          | 42.25           | 41.75        | 84.00        |
| 3/4"                                 | EA          | 0.444          | 56.00           | 46.25        | 102.25       |
| 1"                                   | EA          | 0.615          | 86.00           | 64.00        | 150.00       |
| Condulet covers                      |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.123          | 2.29            | 12.75        | 15.04        |
| 3/4"                                 | EA          | 0.123          | 2.78            | 12.75        | 15.53        |
| 1"                                   | EA          | 0.123          | 3.79            | 12.75        | 16.54        |
| Clamp type entrance caps             |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.250          | 12.25           | 26.00        | 38.25        |
| 3/4"                                 | EA          | 0.296          | 14.50           | 30.75        | 45.25        |
| 1"                                   | EA          | 0.400          | 17.00           | 41.75        | 58.75        |
| Slip fitter type entrance caps       |             |                |                 |              |              |
| 1/2"                                 | EA          | 0.250          | 8.96            | 26.00        | 34.96        |
| 3/4"                                 | EA          | 0.296          | 10.75           | 30.75        | 41.50        |
| 1"                                   | EA          | 0.400          | 13.00           | 41.75        | 54.75        |
| <b>26053.43 FLEXIBLE CONDUIT</b>     |             |                |                 |              |              |
| FLEXIBLE CONDUIT                     |             |                |                 |              |              |
| Flexible conduit, steel              |             |                |                 |              |              |
| 3/8"                                 | LF          | 0.030          | 0.96            | 3.14         | 4.10         |
| 1/2"                                 | LF          | 0.030          | 1.09            | 3.14         | 4.23         |
| 3/4"                                 | LF          | 0.040          | 1.50            | 4.16         | 5.66         |
| 1"                                   | LF          | 0.040          | 2.85            | 4.16         | 7.01         |
| Flexible conduit, liquid tight       |             |                |                 |              |              |
| 3/8"                                 | LF          | 0.030          | 2.14            | 3.14         | 5.28         |
| 1/2"                                 | LF          | 0.030          | 2.42            | 3.14         | 5.56         |
| 3/4"                                 | LF          | 0.040          | 3.30            | 4.16         | 7.46         |
| 1"                                   | LF          | 0.040          | 4.98            | 4.16         | 9.14         |
| Connector, straight                  |             |                |                 |              |              |
| 3/8"                                 | EA          | 0.080          | 3.62            | 8.33         | 11.95        |
| 1/2"                                 | EA          | 0.080          | 3.87            | 8.33         | 12.20        |
| 3/4"                                 | EA          | 0.089          | 4.93            | 9.25         | 14.18        |
| 1"                                   | EA          | 0.100          | 8.79            | 10.50        | 19.29        |
| Straight insulated throat connectors |             |                |                 |              |              |
| 3/8"                                 | EA          | 0.123          | 4.94            | 12.75        | 17.69        |
| 1/2"                                 | EA          | 0.123          | 4.94            | 12.75        | 17.69        |
| 3/4"                                 | EA          | 0.145          | 7.23            | 15.25        | 22.48        |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>26053.43 FLEXIBLE CONDUIT (Cont.)</u></b> |             |                |                 |              |              |
| Straight insulated throat connectors            |             |                |                 |              |              |
| 1" .....  | EA          | 0.145          | 11.25           | 15.25        | 26.50        |
| 90 deg connectors                               |             |                |                 |              |              |
| 3/8" .....                                      | EA          | 0.148          | 6.90            | 15.50        | 22.40        |
| 1/2" .....                                      | EA          | 0.148          | 6.90            | 15.50        | 22.40        |
| 3/4" .....                                      | EA          | 0.170          | 11.00           | 17.75        | 28.75        |
| 1" .....  | EA          | 0.182          | 21.25           | 19.00        | 40.25        |
| 90 degree insulated throat connectors           |             |                |                 |              |              |
| 3/8" .....                                      | EA          | 0.145          | 8.53            | 15.25        | 23.78        |
| 1/2" .....                                      | EA          | 0.145          | 8.53            | 15.25        | 23.78        |
| 3/4" .....                                      | EA          | 0.170          | 12.75           | 17.75        | 30.50        |
| 1" .....  | EA          | 0.178          | 24.50           | 18.50        | 43.00        |
| Flexible aluminum conduit                       |             |                |                 |              |              |
| 3/8" .....                                      | LF          | 0.030          | 0.56            | 3.14         | 3.70         |
| 1/2" .....                                      | LF          | 0.030          | 0.67            | 3.14         | 3.81         |
| 3/4" .....                                      | LF          | 0.040          | 0.92            | 4.16         | 5.08         |
| 1" .....  | LF          | 0.040          | 1.74            | 4.16         | 5.90         |
| Connector, straight                             |             |                |                 |              |              |
| 3/8" .....                                      | EA          | 0.100          | 1.72            | 10.50        | 12.22        |
| 1/2" .....                                      | EA          | 0.100          | 2.40            | 10.50        | 12.90        |
| 3/4" .....                                      | EA          | 0.107          | 2.62            | 11.00        | 13.62        |
| 1" .....  | EA          | 0.123          | 9.61            | 12.75        | 22.36        |
| Straight insulated throat connectors            |             |                |                 |              |              |
| 3/8" .....                                      | EA          | 0.089          | 1.68            | 9.25         | 10.93        |
| 1/2" .....                                      | EA          | 0.089          | 3.38            | 9.25         | 12.63        |
| 3/4" .....                                      | EA          | 0.089          | 3.59            | 9.25         | 12.84        |
| 1" .....  | EA          | 0.100          | 8.74            | 10.50        | 19.24        |
| 90 deg connectors                               |             |                |                 |              |              |
| 3/8" .....                                      | EA          | 0.145          | 2.76            | 15.25        | 18.01        |
| 1/2" .....                                      | EA          | 0.145          | 4.66            | 15.25        | 19.91        |
| 3/4" .....                                      | EA          | 0.145          | 7.32            | 15.25        | 22.57        |
| 1" .....  | EA          | 0.170          | 12.75           | 17.75        | 30.50        |
| 90 deg insulated throat connectors              |             |                |                 |              |              |
| 3/8" .....                                      | EA          | 0.145          | 3.42            | 15.25        | 18.67        |
| 1/2" .....                                      | EA          | 0.145          | 5.18            | 15.25        | 20.43        |
| 3/4" .....                                      | EA          | 0.145          | 8.64            | 15.25        | 23.89        |
| 1" .....  | EA          | 0.170          | 14.25           | 17.75        | 32.00        |
| <b><u>26053.44 GALVANIZED CONDUIT</u></b>       |             |                |                 |              |              |
| GALVANIZED CONDUIT                              |             |                |                 |              |              |
| Galvanized rigid steel conduit                  |             |                |                 |              |              |
| 1/2" .....                                      | LF          | 0.040          | 3.89            | 4.16         | 8.05         |
| 3/4" .....                                      | LF          | 0.050          | 4.30            | 5.20         | 9.50         |
| 1" .....  | LF          | 0.059          | 6.21            | 6.17         | 12.38        |
| 1-1/4" .....                                    | LF          | 0.080          | 8.59            | 8.33         | 16.92        |
| 1-1/2" .....                                    | LF          | 0.089          | 10.00           | 9.25         | 19.25        |
| 2" .....  | LF          | 0.100          | 12.75           | 10.50        | 23.25        |
| 90 degree ell                                   |             |                |                 |              |              |
| 1/2" .....                                      | EA          | 0.250          | 10.25           | 26.00        | 36.25        |
| 3/4" .....                                      | EA          | 0.308          | 10.75           | 32.00        | 42.75        |
| 1" .....  | EA          | 0.381          | 16.50           | 39.75        | 56.25        |
| 1-1/4" .....                                    | EA          | 0.444          | 22.75           | 46.25        | 69.00        |
| 1-1/2" .....                                    | EA          | 0.500          | 28.00           | 52.00        | 80.00        |
| 2" .....  | EA          | 0.533          | 40.75           | 56.00        | 96.75        |
| Couplings, with set screws                      |             |                |                 |              |              |
| 1/2" .....                                      | EA          | 0.050          | 5.17            | 5.20         | 10.37        |
| 3/4" .....                                      | EA          | 0.059          | 6.82            | 6.17         | 12.99        |
| 1" .....  | EA          | 0.080          | 11.00           | 8.33         | 19.33        |
| 1-1/4" .....                                    | EA          | 0.100          | 18.50           | 10.50        | 29.00        |
| 1-1/2" .....                                    | EA          | 0.123          | 24.00           | 12.75        | 36.75        |
| 2" .....  | EA          | 0.145          | 54.00           | 15.25        | 69.25        |
| Split couplings                                 |             |                |                 |              |              |
| 1/2" .....                                      | EA          | 0.190          | 4.40            | 19.75        | 24.15        |
| 3/4" .....                                      | EA          | 0.250          | 5.72            | 26.00        | 31.72        |
| 1" .....  | EA          | 0.276          | 8.03            | 28.75        | 36.78        |

## DIVISION 26 ELECTRICAL

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.44 GALVANIZED CONDUIT (Cont.)</b> |             |                |                 |              |              |
| Split couplings                            |             |                |                 |              |              |
| 1-1/4"                                     | EA          | 0.308          | 15.75           | 32.00        | 47.75        |
| 1-1/2"                                     | EA          | 0.381          | 20.50           | 39.75        | 60.25        |
| 2"   | EA          | 0.571          | 47.25           | 60.00        | 107.25       |
| Erickson couplings                         |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.444          | 6.29            | 46.25        | 52.54        |
| 3/4"                                       | EA          | 0.500          | 7.69            | 52.00        | 59.69        |
| 1"   | EA          | 0.615          | 13.50           | 64.00        | 77.50        |
| 1-1/4"                                     | EA          | 0.889          | 24.25           | 93.00        | 117.25       |
| 1-1/2"                                     | EA          | 1.000          | 31.50           | 100.00       | 131.50       |
| 2"   | EA          | 1.333          | 61.00           | 140.00       | 201.00       |
| Seal fittings                              |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.667          | 24.00           | 69.00        | 93.00        |
| 3/4"                                       | EA          | 0.800          | 26.25           | 83.00        | 109.25       |
| 1"   | EA          | 1.000          | 33.50           | 100.00       | 133.50       |
| 1-1/4"                                     | EA          | 1.143          | 34.75           | 120.00       | 154.75       |
| 1-1/2"                                     | EA          | 1.333          | 61.00           | 140.00       | 201.00       |
| 2"   | EA          | 1.600          | 66.00           | 170.00       | 236.00       |
| Entrance fitting (weatherhead), threaded   |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.444          | 11.00           | 46.25        | 57.25        |
| 3/4"                                       | EA          | 0.500          | 13.50           | 52.00        | 65.50        |
| 1"   | EA          | 0.571          | 17.50           | 60.00        | 77.50        |
| 1-1/4"                                     | EA          | 0.727          | 22.50           | 76.00        | 98.50        |
| 1-1/2"                                     | EA          | 0.800          | 40.00           | 83.00        | 123.00       |
| 2"   | EA          | 0.889          | 61.00           | 93.00        | 154.00       |
| Locknuts                                   |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.050          | 0.28            | 5.20         | 5.48         |
| 3/4"                                       | EA          | 0.050          | 0.36            | 5.20         | 5.56         |
| 1"   | EA          | 0.050          | 0.57            | 5.20         | 5.77         |
| 1-1/4"                                     | EA          | 0.050          | 0.78            | 5.20         | 5.98         |
| 1-1/2"                                     | EA          | 0.059          | 1.29            | 6.17         | 7.46         |
| 2"   | EA          | 0.059          | 1.86            | 6.17         | 8.03         |
| Plastic conduit bushings                   |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.123          | 0.49            | 12.75        | 13.24        |
| 3/4"                                       | EA          | 0.145          | 0.74            | 15.25        | 15.99        |
| 1"   | EA          | 0.190          | 1.05            | 19.75        | 20.80        |
| 1-1/4"                                     | EA          | 0.222          | 1.38            | 23.25        | 24.63        |
| 1-1/2"                                     | EA          | 0.250          | 1.87            | 26.00        | 27.87        |
| 2"   | EA          | 0.308          | 4.25            | 32.00        | 36.25        |
| Conduit bushings, steel                    |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.123          | 0.68            | 12.75        | 13.43        |
| 3/4"                                       | EA          | 0.145          | 0.86            | 15.25        | 16.11        |
| 1"   | EA          | 0.190          | 1.31            | 19.75        | 21.06        |
| 1-1/4"                                     | EA          | 0.222          | 1.87            | 23.25        | 25.12        |
| 1-1/2"                                     | EA          | 0.250          | 2.67            | 26.00        | 28.67        |
| 2"   | EA          | 0.308          | 5.43            | 32.00        | 37.43        |
| Pipe cap                                   |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.050          | 0.63            | 5.20         | 5.83         |
| 3/4"                                       | EA          | 0.050          | 0.69            | 5.20         | 5.89         |
| 1"   | EA          | 0.050          | 1.10            | 5.20         | 6.30         |
| 1-1/4"                                     | EA          | 0.080          | 1.90            | 8.33         | 10.23        |
| 1-1/2"                                     | EA          | 0.080          | 2.95            | 8.33         | 11.28        |
| 2"   | EA          | 0.080          | 3.32            | 8.33         | 11.65        |
| Threaded couplings                         |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.050          | 2.37            | 5.20         | 7.57         |
| 3/4"                                       | EA          | 0.059          | 2.91            | 6.17         | 9.08         |
| 1"   | EA          | 0.080          | 4.32            | 8.33         | 12.65        |
| 1-1/4"                                     | EA          | 0.089          | 5.40            | 9.25         | 14.65        |
| 1-1/2"                                     | EA          | 0.100          | 6.63            | 10.50        | 17.13        |
| 2"   | EA          | 0.107          | 9.02            | 11.00        | 20.02        |
| Threadless couplings                       |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.100          | 9.65            | 10.50        | 20.15        |
| 3/4"                                       | EA          | 0.123          | 10.00           | 12.75        | 22.75        |
| 1"   | EA          | 0.145          | 13.00           | 15.25        | 28.25        |

## DIVISION 26 ELECTRICAL

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.44 GALVANIZED CONDUIT (Cont.)</b> |             |                |                 |              |              |
| Threadless couplings                       |             |                |                 |              |              |
| 1-1/4"                                     | EA          | 0.190          | 15.25           | 19.75        | 35.00        |
| 1-1/2"                                     | EA          | 0.250          | 18.00           | 26.00        | 44.00        |
| 2"   | EA          | 0.308          | 26.50           | 32.00        | 58.50        |
| Threadless connectors                      |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.100          | 4.59            | 10.50        | 15.09        |
| 3/4"                                       | EA          | 0.123          | 7.35            | 12.75        | 20.10        |
| 1"   | EA          | 0.145          | 11.50           | 15.25        | 26.75        |
| 1-1/4"                                     | EA          | 0.190          | 19.75           | 19.75        | 39.50        |
| 1-1/2"                                     | EA          | 0.250          | 30.00           | 26.00        | 56.00        |
| 2"   | EA          | 0.308          | 58.00           | 32.00        | 90.00        |
| Setscrew connectors                        |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.080          | 3.35            | 8.33         | 11.68        |
| 3/4"                                       | EA          | 0.089          | 4.65            | 9.25         | 13.90        |
| 1"   | EA          | 0.100          | 7.25            | 10.50        | 17.75        |
| 1-1/4"                                     | EA          | 0.123          | 12.75           | 12.75        | 25.50        |
| 1-1/2"                                     | EA          | 0.145          | 18.50           | 15.25        | 33.75        |
| 2"   | EA          | 0.190          | 36.75           | 19.75        | 56.50        |
| Clamp type entrance caps                   |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.308          | 13.50           | 32.00        | 45.50        |
| 3/4"                                       | EA          | 0.381          | 16.00           | 39.75        | 55.75        |
| 1"   | EA          | 0.444          | 22.25           | 46.25        | 68.50        |
| 1-1/4"                                     | EA          | 0.500          | 26.00           | 52.00        | 78.00        |
| 1-1/2"                                     | EA          | 0.615          | 47.00           | 64.00        | 111.00       |
| 2"   | EA          | 0.727          | 57.00           | 76.00        | 133.00       |
| LB condulets                               |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.308          | 16.00           | 32.00        | 48.00        |
| 3/4"                                       | EA          | 0.381          | 19.50           | 39.75        | 59.25        |
| 1"   | EA          | 0.444          | 29.25           | 46.25        | 75.50        |
| 1-1/4"                                     | EA          | 0.500          | 50.00           | 52.00        | 102.00       |
| 1-1/2"                                     | EA          | 0.615          | 66.00           | 64.00        | 130.00       |
| 2"   | EA          | 0.727          | 110.00          | 76.00        | 186.00       |
| T condulets                                |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.381          | 20.25           | 39.75        | 60.00        |
| 3/4"                                       | EA          | 0.444          | 24.25           | 46.25        | 70.50        |
| 1"   | EA          | 0.500          | 36.50           | 52.00        | 88.50        |
| 1-1/4"                                     | EA          | 0.571          | 53.00           | 60.00        | 113.00       |
| 1-1/2"                                     | EA          | 0.615          | 71.00           | 64.00        | 135.00       |
| 2"   | EA          | 0.727          | 110.00          | 76.00        | 186.00       |
| X condulets                                |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.444          | 29.75           | 46.25        | 76.00        |
| 3/4"                                       | EA          | 0.500          | 32.25           | 52.00        | 84.25        |
| 1"   | EA          | 0.571          | 53.00           | 60.00        | 113.00       |
| 1-1/4"                                     | EA          | 0.615          | 69.00           | 64.00        | 133.00       |
| 1-1/2"                                     | EA          | 0.667          | 89.00           | 69.00        | 158.00       |
| 2"   | EA          | 0.879          | 180.00          | 92.00        | 272.00       |
| Blank steel conduit covers                 |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.100          | 4.59            | 10.50        | 15.09        |
| 3/4"                                       | EA          | 0.100          | 5.68            | 10.50        | 16.18        |
| 1"   | EA          | 0.100          | 7.73            | 10.50        | 18.23        |
| 1-1/4"                                     | EA          | 0.123          | 9.47            | 12.75        | 22.22        |
| 1-1/2"                                     | EA          | 0.123          | 9.94            | 12.75        | 22.69        |
| 2"   | EA          | 0.123          | 16.75           | 12.75        | 29.50        |
| Solid conduit gaskets                      |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.050          | 3.78            | 5.20         | 8.98         |
| 3/4"                                       | EA          | 0.050          | 4.09            | 5.20         | 9.29         |
| 1"   | EA          | 0.050          | 4.73            | 5.20         | 9.93         |
| 1-1/4"                                     | EA          | 0.080          | 5.88            | 8.33         | 14.21        |
| 1-1/2"                                     | EA          | 0.080          | 6.19            | 8.33         | 14.52        |
| 2"   | EA          | 0.080          | 6.94            | 8.33         | 15.27        |
| One-hole malleable straps                  |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.040          | 0.60            | 4.16         | 4.76         |
| 3/4"                                       | EA          | 0.040          | 0.83            | 4.16         | 4.99         |
| 1"   | EA          | 0.040          | 1.20            | 4.16         | 5.36         |

## DIVISION 26 ELECTRICAL

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.44 GALVANIZED CONDUIT (Cont.)</b> |             |                |                 |              |              |
| One-hole malleable straps                  |             |                |                 |              |              |
| 1-1/4"                                     | EA          | 0.050          | 2.40            | 5.20         | 7.60         |
| 1-1/2"                                     | EA          | 0.050          | 2.76            | 5.20         | 7.96         |
| 2"   | EA          | 0.050          | 5.41            | 5.20         | 10.61        |
| One-hole steel straps                      |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.040          | 0.15            | 4.16         | 4.31         |
| 3/4"                                       | EA          | 0.040          | 0.22            | 4.16         | 4.38         |
| 1"   | EA          | 0.040          | 0.38            | 4.16         | 4.54         |
| 1-1/4"                                     | EA          | 0.050          | 0.54            | 5.20         | 5.74         |
| 1-1/2"                                     | EA          | 0.050          | 0.73            | 5.20         | 5.93         |
| 2"   | EA          | 0.050          | 0.95            | 5.20         | 6.15         |
| Grounding locknuts                         |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.080          | 3.64            | 8.33         | 11.97        |
| 3/4"                                       | EA          | 0.080          | 4.59            | 8.33         | 12.92        |
| 1"   | EA          | 0.080          | 6.64            | 8.33         | 14.97        |
| 1-1/4"                                     | EA          | 0.089          | 7.12            | 9.25         | 16.37        |
| 1-1/2"                                     | EA          | 0.089          | 7.43            | 9.25         | 16.68        |
| 2"   | EA          | 0.089          | 11.00           | 9.25         | 20.25        |
| Insulated grounding metal bushings         |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.190          | 2.58            | 19.75        | 22.33        |
| 3/4"                                       | EA          | 0.222          | 3.81            | 23.25        | 27.06        |
| 1"   | EA          | 0.250          | 5.44            | 26.00        | 31.44        |
| 1-1/4"                                     | EA          | 0.308          | 8.67            | 32.00        | 40.67        |
| 1-1/2"                                     | EA          | 0.381          | 10.75           | 39.75        | 50.50        |
| 2"   | EA          | 0.444          | 15.75           | 46.25        | 62.00        |
| <b>26053.45 PLASTIC COATED CONDUIT</b>     |             |                |                 |              |              |
| PLASTIC COATED CONDUIT                     |             |                |                 |              |              |
| Rigid steel conduit, plastic coated        |             |                |                 |              |              |
| 1/2"                                       | LF          | 0.050          | 10.50           | 5.20         | 15.70        |
| 3/4"                                       | LF          | 0.059          | 12.25           | 6.17         | 18.42        |
| 1"   | LF          | 0.080          | 15.75           | 8.33         | 24.08        |
| 1-1/4"                                     | LF          | 0.100          | 20.00           | 10.50        | 30.50        |
| 1-1/2"                                     | LF          | 0.123          | 24.25           | 12.75        | 37.00        |
| 2"   | LF          | 0.145          | 31.50           | 15.25        | 46.75        |
| 90 degree elbows                           |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.308          | 42.25           | 32.00        | 74.25        |
| 3/4"                                       | EA          | 0.381          | 43.75           | 39.75        | 83.50        |
| 1"   | EA          | 0.444          | 50.00           | 46.25        | 96.25        |
| 1-1/4"                                     | EA          | 0.500          | 62.00           | 52.00        | 114.00       |
| 1-1/2"                                     | EA          | 0.615          | 76.00           | 64.00        | 140.00       |
| 2"   | EA          | 0.800          | 110.00          | 83.00        | 193.00       |
| Couplings                                  |             |                |                 |              |              |
| 1/2"                                       | EA          | 0.059          | 12.00           | 6.17         | 18.17        |
| 3/4"                                       | EA          | 0.080          | 12.50           | 8.33         | 20.83        |
| 1"   | EA          | 0.089          | 16.75           | 9.25         | 26.00        |
| 1-1/4"                                     | EA          | 0.107          | 19.50           | 11.00        | 30.50        |
| 1-1/2"                                     | EA          | 0.123          | 27.25           | 12.75        | 40.00        |
| 2"   | EA          | 0.145          | 34.00           | 15.25        | 49.25        |
| 1 hole conduit straps                      |             |                |                 |              |              |
| 3/4"                                       | EA          | 0.050          | 18.50           | 5.20         | 23.70        |
| 1"   | EA          | 0.050          | 19.25           | 5.20         | 24.45        |
| 1-1/4"                                     | EA          | 0.059          | 28.00           | 6.17         | 34.17        |
| 1-1/2"                                     | EA          | 0.059          | 29.75           | 6.17         | 35.92        |
| 2"   | EA          | 0.059          | 43.25           | 6.17         | 49.42        |
| <b>26053.46 PLASTIC CONDUIT</b>            |             |                |                 |              |              |
| PLASTIC CONDUIT                            |             |                |                 |              |              |
| PVC conduit, schedule 40                   |             |                |                 |              |              |
| 1/2"                                       | LF          | 0.030          | 1.01            | 3.14         | 4.15         |
| 3/4"                                       | LF          | 0.030          | 1.25            | 3.14         | 4.39         |
| 1"   | LF          | 0.040          | 1.81            | 4.16         | 5.97         |
| 1-1/4"                                     | LF          | 0.040          | 2.51            | 4.16         | 6.67         |
| 1-1/2"                                     | LF          | 0.050          | 3.00            | 5.20         | 8.20         |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>26053.46 PLASTIC CONDUIT (Cont.)</b> |             |                |                 |              |              |
| PVC conduit, schedule 40                |             |                |                 |              |              |
| 2" .....                                | LF          | 0.050          | 3.58            | 5.20         | 8.78         |
| Couplings                               |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.050          | 0.62            | 5.20         | 5.82         |
| 3/4" .....                              | EA          | 0.050          | 0.74            | 5.20         | 5.94         |
| 1" .....                                | EA          | 0.050          | 1.16            | 5.20         | 6.36         |
| 1-1/4" .....                            | EA          | 0.059          | 1.53            | 6.17         | 7.70         |
| 1-1/2" .....                            | EA          | 0.059          | 2.12            | 6.17         | 8.29         |
| 2" .....                                | EA          | 0.059          | 2.78            | 6.17         | 8.95         |
| 90 degree elbows                        |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.100          | 2.40            | 10.50        | 12.90        |
| 3/4" .....                              | EA          | 0.123          | 2.62            | 12.75        | 15.37        |
| 1" .....                                | EA          | 0.123          | 4.15            | 12.75        | 16.90        |
| 1-1/4" .....                            | EA          | 0.145          | 5.78            | 15.25        | 21.03        |
| 1-1/2" .....                            | EA          | 0.190          | 7.85            | 19.75        | 27.60        |
| 2" .....                                | EA          | 0.222          | 11.00           | 23.25        | 34.25        |
| Terminal adapters                       |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.100          | 0.90            | 10.50        | 11.40        |
| 3/4" .....                              | EA          | 0.100          | 1.47            | 10.50        | 11.97        |
| 1" .....                                | EA          | 0.100          | 1.83            | 10.50        | 12.33        |
| 1-1/4" .....                            | EA          | 0.160          | 2.30            | 16.75        | 19.05        |
| 1-1/2" .....                            | EA          | 0.160          | 2.94            | 16.75        | 19.69        |
| 2" .....                                | EA          | 0.160          | 4.06            | 16.75        | 20.81        |
| LB conduit body                         |             |                |                 |              |              |
| 1/2" .....                              | EA          | 0.190          | 7.86            | 19.75        | 27.61        |
| 3/4" .....                              | EA          | 0.190          | 10.25           | 19.75        | 30.00        |
| 1" .....                                | EA          | 0.190          | 11.25           | 19.75        | 31.00        |
| 1-1/4" .....                            | EA          | 0.308          | 17.00           | 32.00        | 49.00        |
| 1-1/2" .....                            | EA          | 0.308          | 20.50           | 32.00        | 52.50        |
| 2" .....                                | EA          | 0.308          | 36.00           | 32.00        | 68.00        |
| PVC cement                              |             |                |                 |              |              |
| 1 pint .....                            | EA          |                |                 |              | 20.50        |
| 1 quart .....                           | EA          |                |                 |              | 31.75        |

## **26053.47 STEEL CONDUIT**

### STEEL CONDUIT

#### Intermediate metal conduit (IMC)

|              |    |       |       |      |       |
|--------------|----|-------|-------|------|-------|
| 1/2" .....   | LF | 0.030 | 3.15  | 3.14 | 6.29  |
| 3/4" .....   | LF | 0.040 | 3.87  | 4.16 | 8.03  |
| 1" .....     | LF | 0.050 | 5.86  | 5.20 | 11.06 |
| 1-1/4" ..... | LF | 0.059 | 7.50  | 6.17 | 13.67 |
| 1-1/2" ..... | LF | 0.080 | 9.39  | 8.33 | 17.72 |
| 2" .....     | LF | 0.089 | 12.25 | 9.25 | 21.50 |

#### 90 degree ell

|              |    |       |       |       |        |
|--------------|----|-------|-------|-------|--------|
| 1/2" .....   | EA | 0.250 | 24.25 | 26.00 | 50.25  |
| 3/4" .....   | EA | 0.308 | 25.25 | 32.00 | 57.25  |
| 1" .....     | EA | 0.381 | 38.75 | 39.75 | 78.50  |
| 1-1/4" ..... | EA | 0.444 | 54.00 | 46.25 | 100.25 |
| 1-1/2" ..... | EA | 0.500 | 66.00 | 52.00 | 118.00 |
| 2" .....     | EA | 0.571 | 95.00 | 60.00 | 155.00 |

#### Couplings

|              |    |       |       |       |       |
|--------------|----|-------|-------|-------|-------|
| 1/2" .....   | EA | 0.050 | 5.91  | 5.20  | 11.11 |
| 3/4" .....   | EA | 0.059 | 7.26  | 6.17  | 13.43 |
| 1" .....     | EA | 0.080 | 10.75 | 8.33  | 19.08 |
| 1-1/4" ..... | EA | 0.089 | 13.50 | 9.25  | 22.75 |
| 1-1/2" ..... | EA | 0.100 | 17.00 | 10.50 | 27.50 |
| 2" .....     | EA | 0.107 | 22.50 | 11.00 | 33.50 |

## **26241.60 PANELBOARDS**

### PANELBOARDS

#### Indoor load center, 1 phase 240v main lug only

|                        |    |       |        |        |          |
|------------------------|----|-------|--------|--------|----------|
| 30a - 2 spaces .....   | EA | 2.000 | 41.75  | 210.00 | 251.75   |
| 100a - 8 spaces .....  | EA | 2.424 | 130.00 | 250.00 | 380.00   |
| 150a - 16 spaces ..... | EA | 2.963 | 350.00 | 310.00 | 660.00   |
| 200a - 24 spaces ..... | EA | 3.478 | 720.00 | 360.00 | 1,080.00 |
| 200a - 42 spaces ..... | EA | 4.000 | 740.00 | 420.00 | 1,160.00 |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>26241.60 PANELBOARDS (Cont.)</b>             |             |                |                 |              |              |
| Indoor load center, 1 phase 240v main lug only  |             |                |                 |              |              |
| Main circuit breaker                            |             |                |                 |              |              |
| 100a - 8 spaces                                 | EA          | 2.424          | 420.00          | 250.00       | 670.00       |
| 100a - 16 spaces                                | EA          | 2.759          | 460.00          | 290.00       | 750.00       |
| 150a - 16 spaces                                | EA          | 2.963          | 750.00          | 310.00       | 1,060.00     |
| 150a - 24 spaces                                | EA          | 3.200          | 890.00          | 330.00       | 1,220.00     |
| 200a - 24 spaces                                | EA          | 3.478          | 830.00          | 360.00       | 1,190.00     |
| 200a - 42 spaces                                | EA          | 3.636          | 1,190.00        | 380.00       | 1,570.00     |
| 120/208v, flush, 3 ph., 4 wire, main only       |             |                |                 |              |              |
| 100a  |             |                |                 |              |              |
| 12 circuits                                     | EA          | 5.096          | 1,320.00        | 530.00       | 1,850.00     |
| 20 circuits                                     | EA          | 6.299          | 1,820.00        | 660.00       | 2,480.00     |
| 30 circuits                                     | EA          | 7.018          | 2,710.00        | 730.00       | 3,440.00     |
| 225a  |             |                |                 |              |              |
| 30 circuits                                     | EA          | 7.767          | 2,760.00        | 810.00       | 3,570.00     |
| 42 circuits                                     | EA          | 9.524          | 3,490.00        | 990.00       | 4,480.00     |
| <b>26250.03 BUS DUCT</b>                        |             |                |                 |              |              |
| BUS DUCT  |             |                |                 |              |              |
| Bus duct, 100a, plug-in                         |             |                |                 |              |              |
| 10', 600v                                       | EA          | 2.759          | 850.00          | 290.00       | 1,140.00     |
| With ground                                     | EA          | 4.211          | 1,130.00        | 440.00       | 1,570.00     |
| Circuit breakers, with enclosure                |             |                |                 |              |              |
| 1 pole  |             |                |                 |              |              |
| 15a-60a   | EA          | 1.000          | 540.00          | 100.00       | 640.00       |
| 70a-100a  | EA          | 1.250          | 620.00          | 130.00       | 750.00       |
| 2 pole  |             |                |                 |              |              |
| 15a-60a   | EA          | 1.100          | 760.00          | 110.00       | 870.00       |
| 70a-100a  | EA          | 1.301          | 910.00          | 140.00       | 1,050.00     |
| Circuit breaker, adapter cubicle                |             |                |                 |              |              |
| 225a  | EA          | 1.509          | 8,280.00        | 160.00       | 8,440.00     |
| 400a  | EA          | 1.600          | 9,770.00        | 170.00       | 9,940.00     |
| Fusible switches, 240v, 3 phase                 |             |                |                 |              |              |
| 30a   | EA          | 1.000          | 800.00          | 100.00       | 900.00       |
| 60a   | EA          | 1.250          | 980.00          | 130.00       | 1,110.00     |
| 100a  | EA          | 1.509          | 1,310.00        | 160.00       | 1,470.00     |
| 200a  | EA          | 2.105          | 2,290.00        | 220.00       | 2,510.00     |
| <b>26271.30 METERING</b>                        |             |                |                 |              |              |
| METERING  |             |                |                 |              |              |
| Outdoor wp meter sockets, 1 gang, 240v, 1 phase |             |                |                 |              |              |
| Includes sealing ring, 100a                     | EA          | 1.509          | 76.00           | 160.00       | 236.00       |
| 150a  | EA          | 1.778          | 90.00           | 190.00       | 280.00       |
| 200a  | EA          | 2.000          | 110.00          | 210.00       | 320.00       |
| Die cast hubs, 1-1/4"                           | EA          | 0.320          | 10.50           | 33.25        | 43.75        |
| 1-1/2"  | EA          | 0.320          | 12.00           | 33.25        | 45.25        |
| 2"  | EA          | 0.320          | 14.50           | 33.25        | 47.75        |
| <b>26272.68 RECEPTACLES</b>                     |             |                |                 |              |              |
| RECEPTACLES                                     |             |                |                 |              |              |
| Contractor grade duplex receptacles, 15a 120v   |             |                |                 |              |              |
| Duplex  | EA          | 0.200          | 2.35            | 20.75        | 23.10        |
| 125 volt, 20a, duplex, standard grade           | EA          | 0.200          | 17.50           | 20.75        | 38.25        |
| Ground fault interrupter type                   | EA          | 0.296          | 57.00           | 30.75        | 87.75        |
| 250 volt, 20a, 2 pole, single, grounding type   | EA          | 0.200          | 29.25           | 20.75        | 50.00        |
| 120/208v, 4 pole, single receptacle, twist lock |             |                |                 |              |              |
| 20a   | EA          | 0.348          | 34.75           | 36.25        | 71.00        |
| 50a   | EA          | 0.348          | 66.00           | 36.25        | 102.25       |
| 125/250v, 3 pole, flush receptacle              |             |                |                 |              |              |
| 30a   | EA          | 0.296          | 35.25           | 30.75        | 66.00        |
| 50a   | EA          | 0.296          | 43.50           | 30.75        | 74.25        |
| 60a   | EA          | 0.348          | 110.00          | 36.25        | 146.25       |
| Dryer receptacle, 250v, 30a/50a, 3 wire         | EA          | 0.296          | 26.25           | 30.75        | 57.00        |
| Clock receptacle, 2 pole, grounding type        | EA          | 0.200          | 17.50           | 20.75        | 38.25        |
| 125v, 20a single recept. grounding type         |             |                |                 |              |              |
| Standard grade                                  | EA          | 0.200          | 19.00           | 20.75        | 39.75        |

## DIVISION 26 ELECTRICAL

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
|--|-------------|----------------|-----------------|--------------|--------------|

### **26272.68 RECEPTACLES (Cont.)**

|   |    |       |       |       |        |
|---|----|-------|-------|-------|--------|
| Contractor grade duplex receptacles, 15a 120v<br>125/250v, 3 pole, 3 wire surface recepts |    |       |       |       |        |
| 30a .....   | EA | 0.296 | 29.75 | 30.75 | 60.50  |
| 50a .....   | EA | 0.296 | 33.00 | 30.75 | 63.75  |
| 60a .....   | EA | 0.348 | 73.00 | 36.25 | 109.25 |
| Cord set, 3 wire, 6' cord   |    |       |       |       |        |
| 30a .....   | EA | 0.296 | 26.50 | 30.75 | 57.25  |
| 50a .....   | EA | 0.296 | 37.50 | 30.75 | 68.25  |
| 125/250v, 3 pole, 3 wire cap  |    |       |       |       |        |
| 30a .....   | EA | 0.400 | 26.25 | 41.75 | 68.00  |
| 50a .....   | EA | 0.400 | 47.75 | 41.75 | 89.50  |
| 60a .....   | EA | 0.444 | 61.00 | 46.25 | 107.25 |

### **26281.30 FUSES**

#### FUSES

|                      |    |       |       |      |       |
|----------------------|----|-------|-------|------|-------|
| Fuse, one-time, 250v |    |       |       |      |       |
| 30a .....            | EA | 0.050 | 4.23  | 5.20 | 9.43  |
| 60a .....            | EA | 0.050 | 7.16  | 5.20 | 12.36 |
| 100a .....           | EA | 0.050 | 30.00 | 5.20 | 35.20 |

### **26281.61 CIRCUIT BREAKERS**

#### CIRCUIT BREAKERS

|                                    |    |       |        |       |        |
|------------------------------------|----|-------|--------|-------|--------|
| Load center circuit breakers, 240v |    |       |        |       |        |
| 1 pole, 10-60a .....               | EA | 0.250 | 32.50  | 26.00 | 58.50  |
| 2 pole                             |    |       |        |       |        |
| 10-60a .....                       | EA | 0.400 | 66.00  | 41.75 | 107.75 |
| 70-100a .....                      | EA | 0.667 | 200.00 | 69.00 | 269.00 |
| 110-150a .....                     | EA | 0.727 | 420.00 | 76.00 | 496.00 |
| Load center, GFI breakers, 240v    |    |       |        |       |        |
| 1 pole, 15-30a .....               | EA | 0.296 | 250.00 | 30.75 | 280.75 |
| Tandem breakers, 240v              |    |       |        |       |        |
| 1 pole, 15-30a .....               | EA | 0.400 | 54.00  | 41.75 | 95.75  |
| 2 pole, 15-30a .....               | EA | 0.533 | 98.00  | 56.00 | 154.00 |

### **26281.64 SWITCHES**

#### SWITCHES

|   |    |       |        |       |        |
|---|----|-------|--------|-------|--------|
| Photoelectric switches                                |    |       |        |       |        |
| 1000 watt   |    |       |        |       |        |
| 105-135v .....  | EA | 0.727 | 56.00  | 76.00 | 132.00 |
| Dimmer switch and switch plate                        |    |       |        |       |        |
| 600w .....  | EA | 0.308 | 52.00  | 32.00 | 84.00  |
| Time clocks with skip, 40a, 120v                      |    |       |        |       |        |
| SPST .....  | EA | 0.748 | 220.00 | 78.00 | 298.00 |
| Contractor grade wall switch 15a, 120v                |    |       |        |       |        |
| Single pole .....                                     | EA | 0.160 | 3.83   | 16.75 | 20.58  |
| Three way .....                                       | EA | 0.200 | 6.99   | 20.75 | 27.74  |
| Four way .....  | EA | 0.267 | 23.50  | 27.75 | 51.25  |
| Specification grade toggle switches, 20a, 120-277v    |    |       |        |       |        |
| Single pole .....                                     | EA | 0.200 | 8.42   | 20.75 | 29.17  |
| Double pole .....                                     | EA | 0.296 | 20.25  | 30.75 | 51.00  |
| 3 way .....   | EA | 0.250 | 22.00  | 26.00 | 48.00  |
| 4 way .....   | EA | 0.296 | 66.00  | 30.75 | 96.75  |
| Combination switch and pilot light, single pole ..... | EA | 0.296 | 20.75  | 30.75 | 51.50  |
| 3 way .....   | EA | 0.348 | 25.75  | 36.25 | 62.00  |
| Combination switch and receptacle, single pole .....  | EA | 0.296 | 29.75  | 30.75 | 60.50  |
| 3 way .....   | EA | 0.296 | 36.50  | 30.75 | 67.25  |
| Switch plates, plastic ivory                          |    |       |        |       |        |
| 1 gang .....  | EA | 0.080 | 0.92   | 8.33  | 9.25   |
| 2 gang .....  | EA | 0.100 | 2.16   | 10.50 | 12.66  |
| 3 gang .....  | EA | 0.119 | 3.38   | 12.50 | 15.88  |
| 4 gang .....  | EA | 0.145 | 8.66   | 15.25 | 23.91  |
| 5 gang .....  | EA | 0.160 | 9.07   | 16.75 | 25.82  |
| 6 gang .....  | EA | 0.182 | 10.75  | 19.00 | 29.75  |
| Stainless steel                                       |    |       |        |       |        |
| 1 gang .....  | EA | 0.080 | 7.80   | 8.33  | 16.13  |
| 2 gang .....  | EA | 0.100 | 10.75  | 10.50 | 21.25  |

## DIVISION 26 ELECTRICAL

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>26281.64 SWITCHES (Cont.)</b>            |             |                |                 |              |              |
| Stainless steel                             |             |                |                 |              |              |
| 3 gang .....                                | EA          | 0.123          | 16.75           | 12.75        | 29.50        |
| 4 gang .....                                | EA          | 0.145          | 28.50           | 15.25        | 43.75        |
| 5 gang .....                                | EA          | 0.160          | 33.50           | 16.75        | 50.25        |
| 6 gang .....                                | EA          | 0.182          | 41.50           | 19.00        | 60.50        |
| Brass                                       |             |                |                 |              |              |
| 1 gang .....                                | EA          | 0.080          | 14.50           | 8.33         | 22.83        |
| 2 gang .....                                | EA          | 0.100          | 31.25           | 10.50        | 41.75        |
| 3 gang .....                                | EA          | 0.123          | 48.25           | 12.75        | 61.00        |
| 4 gang .....                                | EA          | 0.145          | 56.00           | 15.25        | 71.25        |
| 5 gang .....                                | EA          | 0.160          | 69.00           | 16.75        | 85.75        |
| 6 gang .....                                | EA          | 0.182          | 83.00           | 19.00        | 102.00       |
| <b>26411.30 LIGHTNING PROTECTION</b>        |             |                |                 |              |              |
| LIGHTNING PROTECTION                        |             |                |                 |              |              |
| Lightning protection                        |             |                |                 |              |              |
| Copper point, nickel plated, 12'            |             |                |                 |              |              |
| 1/2" dia. .....                             | EA          | 1.000          | 69.00           | 100.00       | 169.00       |
| 5/8" dia. .....                             | EA          | 1.000          | 78.00           | 100.00       | 178.00       |
| <b>26511.01 INTERIOR LIGHTING</b>           |             |                |                 |              |              |
| INTERIOR LIGHTING                           |             |                |                 |              |              |
| Recessed fluorescent fixtures, 2'x2'        |             |                |                 |              |              |
| 2 lamp .....                                | EA          | 0.727          | 110.00          | 76.00        | 186.00       |
| 4 lamp .....                                | EA          | 0.727          | 150.00          | 76.00        | 226.00       |
| Surface mounted incandescent fixtures       |             |                |                 |              |              |
| 40w .....                                   | EA          | 0.667          | 170.00          | 69.00        | 239.00       |
| 75w .....                                   | EA          | 0.667          | 170.00          | 69.00        | 239.00       |
| 100w .....                                  | EA          | 0.667          | 190.00          | 69.00        | 259.00       |
| 150w .....                                  | EA          | 0.667          | 250.00          | 69.00        | 319.00       |
| Pendant, LED, minimum                       |             |                |                 |              |              |
| Average .....                               | EA          | 0.800          | 160.00          | 83.00        | 243.00       |
| Maximum .....                               | EA          | 1.000          | 280.00          | 100.00       | 380.00       |
| Pendant                                     |             |                |                 |              |              |
| 40w .....                                   | EA          | 0.800          | 140.00          | 83.00        | 223.00       |
| 75w .....                                   | EA          | 0.800          | 150.00          | 83.00        | 233.00       |
| 100w .....                                  | EA          | 0.800          | 170.00          | 83.00        | 253.00       |
| 150w .....                                  | EA          | 0.800          | 190.00          | 83.00        | 273.00       |
| Contractor grade recessed down lights       |             |                |                 |              |              |
| 100 watt housing only .....                 | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| 150 watt housing only .....                 | EA          | 1.000          | 160.00          | 100.00       | 260.00       |
| 100 watt trim .....                         | EA          | 0.500          | 92.00           | 52.00        | 144.00       |
| 150 watt trim .....                         | EA          | 0.500          | 140.00          | 52.00        | 192.00       |
| Recessed incandescent fixtures              |             |                |                 |              |              |
| 40w .....                                   | EA          | 1.509          | 230.00          | 160.00       | 390.00       |
| 75w .....                                   | EA          | 1.509          | 250.00          | 160.00       | 410.00       |
| 100w .....                                  | EA          | 1.509          | 270.00          | 160.00       | 430.00       |
| 150w .....                                  | EA          | 1.509          | 280.00          | 160.00       | 440.00       |
| Down lights, fluorescent, minimum           |             |                |                 |              |              |
| Average .....                               | EA          | 0.800          | 38.50           | 83.00        | 121.50       |
| Maximum .....                               | EA          | 1.000          | 66.00           | 100.00       | 166.00       |
| LED Down lights, minimum                    |             |                |                 |              |              |
| Average .....                               | EA          | 0.800          | 44.00           | 69.00        | 113.00       |
| Maximum .....                               | EA          | 1.000          | 83.00           | 83.00        | 166.00       |
| For vandal resistant, add to material \$400 |             |                |                 |              |              |
| Light track single circuit                  |             |                |                 |              |              |
| 2' .....                                    | EA          | 0.500          | 67.00           | 52.00        | 119.00       |
| 4' .....                                    | EA          | 0.500          | 79.00           | 52.00        | 131.00       |
| 8' .....                                    | EA          | 1.000          | 110.00          | 100.00       | 210.00       |
| 12' .....                                   | EA          | 1.509          | 150.00          | 160.00       | 310.00       |
| Fittings and accessories                    |             |                |                 |              |              |
| Dead end .....                              | EA          | 0.145          | 26.50           | 15.25        | 41.75        |
| Starter kit .....                           | EA          | 0.250          | 35.50           | 26.00        | 61.50        |
| Conduit feed .....                          | EA          | 0.145          | 34.50           | 15.25        | 49.75        |
| Straight connector .....                    | EA          | 0.145          | 30.50           | 15.25        | 45.75        |
| Center feed .....                           | EA          | 0.145          | 48.75           | 15.25        | 64.00        |

## DIVISION 26 ELECTRICAL

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b><u>26511.01 INTERIOR LIGHTING (Cont.)</u></b> |             |                |                 |              |              |
| Fittings and accessories                         |             |                |                 |              |              |
| L-connector .....                                | EA          | 0.145          | 34.50           | 15.25        | 49.75        |
| T-connector .....                                | EA          | 0.145          | 46.25           | 15.25        | 61.50        |
| X-connector .....                                | EA          | 0.200          | 56.00           | 20.75        | 76.75        |
| Cord and plug .....                              | EA          | 0.100          | 56.00           | 10.50        | 66.50        |
| Rigid corner .....                               | EA          | 0.145          | 74.00           | 15.25        | 89.25        |
| Flex connector .....                             | EA          | 0.145          | 58.00           | 15.25        | 73.25        |
| 2 way connector .....                            | EA          | 0.200          | 160.00          | 20.75        | 180.75       |
| Spacer clip .....                                | EA          | 0.050          | 2.49            | 5.20         | 7.69         |
| Grid box .....                                   | EA          | 0.145          | 14.00           | 15.25        | 29.25        |
| T-bar clip .....                                 | EA          | 0.050          | 3.72            | 5.20         | 8.92         |
| Utility hook .....                               | EA          | 0.145          | 10.75           | 15.25        | 26.00        |
| Fixtures, square                                 |             |                |                 |              |              |
| R-20 .....                                       | EA          | 0.145          | 68.00           | 15.25        | 83.25        |
| R-30 .....                                       | EA          | 0.145          | 110.00          | 15.25        | 125.25       |
| 40w flood .....                                  | EA          | 0.145          | 170.00          | 15.25        | 185.25       |
| 40w spot .....                                   | EA          | 0.145          | 170.00          | 15.25        | 185.25       |
| 100w flood .....                                 | EA          | 0.145          | 200.00          | 15.25        | 215.25       |
| 100w spot .....                                  | EA          | 0.145          | 150.00          | 15.25        | 165.25       |
| Mini spot .....                                  | EA          | 0.145          | 65.00           | 15.25        | 80.25        |
| Mini flood .....                                 | EA          | 0.145          | 150.00          | 15.25        | 165.25       |
| Quartz, 500w .....                               | EA          | 0.145          | 380.00          | 15.25        | 395.25       |
| R-20 sphere .....                                | EA          | 0.145          | 110.00          | 15.25        | 125.25       |
| R-30 sphere .....                                | EA          | 0.145          | 60.00           | 15.25        | 75.25        |
| R-20 cylinder .....                              | EA          | 0.145          | 81.00           | 15.25        | 96.25        |
| R-30 cylinder .....                              | EA          | 0.145          | 93.00           | 15.25        | 108.25       |
| R-40 cylinder .....                              | EA          | 0.145          | 95.00           | 15.25        | 110.25       |
| R-30 wall wash .....                             | EA          | 0.145          | 150.00          | 15.25        | 165.25       |
| R-40 wall wash .....                             | EA          | 0.145          | 180.00          | 15.25        | 195.25       |

## **26514.01 INDUSTRIAL LIGHTING**

### INDUSTRIAL LIGHTING

#### Surface mounted fluorescent, wrap around lens

|               |    |       |        |       |        |
|---------------|----|-------|--------|-------|--------|
| 1 lamp .....  | EA | 0.800 | 140.00 | 83.00 | 223.00 |
| 2 lamps ..... | EA | 0.889 | 190.00 | 93.00 | 283.00 |

#### Wall mounted fluorescent

|                   |    |       |        |       |        |
|-------------------|----|-------|--------|-------|--------|
| 2-20w lamps ..... | EA | 0.500 | 140.00 | 52.00 | 192.00 |
| 2-30w lamps ..... | EA | 0.500 | 160.00 | 52.00 | 212.00 |
| 2-40w lamps ..... | EA | 0.667 | 160.00 | 69.00 | 229.00 |

#### Strip fluorescent

|               |    |       |       |       |        |
|---------------|----|-------|-------|-------|--------|
| 4'            |    |       |       |       |        |
| 1 lamp .....  | EA | 0.667 | 69.00 | 69.00 | 138.00 |
| 2 lamps ..... | EA | 0.667 | 84.00 | 69.00 | 153.00 |

8'

|               |    |       |        |       |        |
|---------------|----|-------|--------|-------|--------|
| 1 lamp .....  | EA | 0.727 | 100.00 | 76.00 | 176.00 |
| 2 lamps ..... | EA | 0.889 | 150.00 | 93.00 | 243.00 |

#### Compact fluorescent

|             |    |       |       |        |        |
|-------------|----|-------|-------|--------|--------|
| 2-7w .....  | EA | 1.000 | 49.00 | 100.00 | 149.00 |
| 2-13w ..... | EA | 1.333 | 56.00 | 140.00 | 196.00 |

## DIVISION 27 COMMUNICATIONS

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|                                     | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>27510.02 SIGNALING SYSTEMS</b>   |             |                |                 |              |              |
| SIGNALING SYSTEMS                   |             |                |                 |              |              |
| Contractor grade doorbell chime kit |             |                |                 |              |              |
| Chime .....                         | EA          | 1.000          | 61.00           | 100.00       | 161.00       |
| Doorbutton .....                    | EA          | 0.320          | 8.44            | 33.25        | 41.69        |
| Transformer .....                   | EA          | 0.500          | 27.00           | 52.00        | 79.00        |

## DIVISION 31 EARTHWORK

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u>             |
|--|-------------|----------------|-----------------|--------------|--------------------------|
| <b><u>31110.01 CLEAR WOODED AREAS</u></b>          |             |                |                 |              |                          |
| CLEAR WOODED AREAS                                 |             |                |                 |              |                          |
| Clear wooded area                                  |             |                |                 |              |                          |
| Light density .....                                | ACRE.....   | 60.000         |                 |              | 8,780.00 .....           |
| Medium density .....                               | ACRE.....   | 80.000         |                 |              | 11,700.00 .... 11,700.00 |
| Heavy density .....                                | ACRE.....   | 96.000         |                 |              | 14,040.00 .... 14,040.00 |
| <b><u>31130.05 TREE CUTTING &amp; CLEARING</u></b> |             |                |                 |              |                          |
| TREE CUTTING & CLEARING                            |             |                |                 |              |                          |
| Cut trees and clear out stumps                     |             |                |                 |              |                          |
| 9" to 12" dia. ....                                | EA.....     | 4.800          |                 |              | 700.00 ..... 700.00      |
| To 24" dia. ....                                   | EA.....     | 6.000          |                 |              | 880.00 ..... 880.00      |
| 24" dia. and up .....                              | EA.....     | 8.000          |                 |              | 1,170.00 .... 1,170.00   |
| Loading and trucking                               |             |                |                 |              |                          |
| For machine load, per load, round trip             |             |                |                 |              |                          |
| 1 mile .....                                       | EA.....     | 0.960          |                 |              | 140.00 ..... 140.00      |
| 3 mile .....                                       | EA.....     | 1.091          |                 |              | 160.00 ..... 160.00      |
| 5 mile .....                                       | EA.....     | 1.200          |                 |              | 180.00 ..... 180.00      |
| 10 mile .....                                      | EA.....     | 1.600          |                 |              | 230.00 ..... 230.00      |
| 20 mile .....                                      | EA.....     | 2.400          |                 |              | 350.00 ..... 350.00      |
| Hand loaded, round trip                            |             |                |                 |              |                          |
| 1 mile .....                                       | EA.....     | 2.000          |                 |              | 340.00 ..... 340.00      |
| 3 mile .....                                       | EA.....     | 2.286          |                 |              | 390.00 ..... 390.00      |
| 5 mile .....                                       | EA.....     | 2.667          |                 |              | 450.00 ..... 450.00      |
| 10 mile .....                                      | EA.....     | 3.200          |                 |              | 540.00 ..... 540.00      |
| 20 mile .....                                      | EA.....     | 4.000          |                 |              | 680.00 ..... 680.00      |
| <b><u>31231.31 BASE COURSE</u></b>                 |             |                |                 |              |                          |
| BASE COURSE  |             |                |                 |              |                          |
| Base course, crushed stone                         |             |                |                 |              |                          |
| 3" thick .....                                     | SY.....     | 0.004          | 4.01            | 0.97         | 4.98                     |
| 4" thick .....                                     | SY.....     | 0.004          | 5.35            | 1.05         | 6.40                     |
| 6" thick .....                                     | SY.....     | 0.005          | 8.04            | 1.14         | 9.18                     |
| Base course, bank run gravel                       |             |                |                 |              |                          |
| 4" deep .....                                      | SY.....     | 0.004          | 4.88            | 1.02         | 5.90                     |
| 6" deep .....                                      | SY.....     | 0.005          | 7.33            | 1.11         | 8.44                     |
| Prepare and roll sub-base                          |             |                |                 |              |                          |
| Minimum .....                                      | SY.....     | 0.004          |                 |              | 0.97 ..... 0.97          |
| Average .....                                      | SY.....     | 0.005          |                 |              | 1.21 ..... 1.21          |
| Maximum .....                                      | SY.....     | 0.007          |                 |              | 1.62 ..... 1.62          |
| <b><u>31231.32 BORROW</u></b>                      |             |                |                 |              |                          |
| BORROW   |             |                |                 |              |                          |
| Borrow fill, FOB at pit                            |             |                |                 |              |                          |
| Sand, haul to site, round trip                     |             |                |                 |              |                          |
| 10 mile .....                                      | CY.....     | 0.080          | 36.25           | 19.50        | 55.75                    |
| 20 mile .....                                      | CY.....     | 0.133          | 36.25           | 32.50        | 68.75                    |
| 30 mile .....                                      | CY.....     | 0.200          | 36.25           | 48.75        | 85.00                    |
| Place borrow fill and compact                      |             |                |                 |              |                          |
| Less than 1 in 4 slope .....                       | CY.....     | 0.040          | 46.00           | 9.73         | 55.73                    |
| Greater than 1 in 4 slope .....                    | CY.....     | 0.053          | 46.00           | 13.00        | 59.00                    |
| <b><u>31231.37 GRAVEL AND STONE</u></b>            |             |                |                 |              |                          |
| GRAVEL AND STONE                                   |             |                |                 |              |                          |
| FOB at plant, material only                        |             |                |                 |              |                          |
| No. 21 crusher run stone .....                     | CY.....     |                |                 |              | 49.50                    |
| No. 26 crusher run stone .....                     | CY.....     |                |                 |              | 49.50                    |
| No. 57 stone .....                                 | CY.....     |                |                 |              | 49.50                    |
| No. 67 gravel .....                                | CY.....     |                |                 |              | 49.50                    |
| No. 68 stone .....                                 | CY.....     |                |                 |              | 49.50                    |
| No. 78 stone .....                                 | CY.....     |                |                 |              | 49.50                    |
| No. 78 gravel, (pea gravel) .....                  | CY.....     |                |                 |              | 49.50                    |
| No. 357 or B-3 stone .....                         | CY.....     |                |                 |              | 49.50                    |
| Structural & foundation backfill                   |             |                |                 |              |                          |
| No. 21 crusher run stone .....                     | TON.....    |                |                 |              | 36.75                    |
| No. 26 crusher run stone .....                     | TON.....    |                |                 |              | 36.75                    |
| No. 57 stone .....                                 | TON.....    |                |                 |              | 36.75                    |

## DIVISION 31 EARTHWORK

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>31231.37 GRAVEL AND STONE (Cont.)</b>            |             |                |                 |              |              |
| Structural & foundation backfill                    |             |                |                 |              |              |
| No. 67 gravel .....                                 | TON         |                |                 |              | 36.75        |
| No. 68 stone .....                                  | TON         |                |                 |              | 36.75        |
| No. 78 stone .....                                  | TON         |                |                 |              | 36.75        |
| No. 78 gravel (pea gravel) .....                    | TON         |                |                 |              | 36.75        |
| No. 357 or B-3 stone .....                          | TON         |                |                 |              | 36.75        |
| <b>31231.63 BULK EXCAVATION</b>                     |             |                |                 |              |              |
| BULK EXCAVATION                                     |             |                |                 |              |              |
| Excavation, by small dozer                          |             |                |                 |              |              |
| Large areas .....                                   | CY          | 0.016          |                 | 2.72         | 2.72         |
| Small areas .....                                   | CY          | 0.027          |                 | 4.53         | 4.53         |
| Trim banks .....                                    | CY          | 0.040          |                 | 6.80         | 6.80         |
| Hydraulic excavator                                 |             |                |                 |              |              |
| 1 c.y. capacity                                     |             |                |                 |              |              |
| Light material .....                                | CY          | 0.040          |                 | 5.85         | 5.85         |
| Medium material .....                               | CY          | 0.048          |                 | 7.02         | 7.02         |
| Wet material .....                                  | CY          | 0.060          |                 | 8.77         | 8.77         |
| Blasted rock .....                                  | CY          | 0.069          |                 | 10.00        | 10.00        |
| 1-1/2 c.y. capacity                                 |             |                |                 |              |              |
| Light material .....                                | CY          | 0.010          |                 | 2.43         | 2.43         |
| Medium material .....                               | CY          | 0.013          |                 | 3.24         | 3.24         |
| Wet material .....                                  | CY          | 0.016          |                 | 3.89         | 3.89         |
| Wheel mounted front-end loader                      |             |                |                 |              |              |
| 7/8 c.y. capacity                                   |             |                |                 |              |              |
| Light material .....                                | CY          | 0.020          |                 | 4.86         | 4.86         |
| Medium material .....                               | CY          | 0.023          |                 | 5.56         | 5.56         |
| Wet material .....                                  | CY          | 0.027          |                 | 6.48         | 6.48         |
| Blasted rock .....                                  | CY          | 0.032          |                 | 7.78         | 7.78         |
| 1-1/2 c.y. capacity                                 |             |                |                 |              |              |
| Light material .....                                | CY          | 0.011          |                 | 2.78         | 2.78         |
| Medium material .....                               | CY          | 0.012          |                 | 2.99         | 2.99         |
| Wet material .....                                  | CY          | 0.013          |                 | 3.24         | 3.24         |
| Blasted rock .....                                  | CY          | 0.015          |                 | 3.53         | 3.53         |
| 2-1/2 c.y. capacity                                 |             |                |                 |              |              |
| Light material .....                                | CY          | 0.009          |                 | 2.28         | 2.28         |
| Medium material .....                               | CY          | 0.010          |                 | 2.43         | 2.43         |
| Wet material .....                                  | CY          | 0.011          |                 | 2.59         | 2.59         |
| Blasted rock .....                                  | CY          | 0.011          |                 | 2.78         | 2.78         |
| Track mounted front-end loader                      |             |                |                 |              |              |
| 1-1/2 c.y. capacity                                 |             |                |                 |              |              |
| Light material .....                                | CY          | 0.013          |                 | 3.24         | 3.24         |
| Medium material .....                               | CY          | 0.015          |                 | 3.53         | 3.53         |
| Wet material .....                                  | CY          | 0.016          |                 | 3.89         | 3.89         |
| Blasted rock .....                                  | CY          | 0.018          |                 | 4.32         | 4.32         |
| 2-3/4 c.y. capacity                                 |             |                |                 |              |              |
| Light material .....                                | CY          | 0.008          |                 | 1.94         | 1.94         |
| Medium material .....                               | CY          | 0.009          |                 | 2.16         | 2.16         |
| Wet material .....                                  | CY          | 0.010          |                 | 2.43         | 2.43         |
| Blasted rock .....                                  | CY          | 0.011          |                 | 2.78         | 2.78         |
| <b>31231.64 BUILDING EXCAVATION</b>                 |             |                |                 |              |              |
| BUILDING EXCAVATION                                 |             |                |                 |              |              |
| Structural excavation, unclassified earth           |             |                |                 |              |              |
| 3/8 c.y. backhoe .....                              | CY          | 0.107          |                 | 26.00        | 26.00        |
| 3/4 c.y. backhoe .....                              | CY          | 0.080          |                 | 19.50        | 19.50        |
| 1 c.y. backhoe .....                                | CY          | 0.067          |                 | 16.25        | 16.25        |
| Foundation backfill and compaction by machine ..... | CY          | 0.160          |                 | 39.00        | 39.00        |
| <b>31231.65 HAND EXCAVATION</b>                     |             |                |                 |              |              |
| HAND EXCAVATION                                     |             |                |                 |              |              |
| Excavation  |             |                |                 |              |              |
| To 2' deep  |             |                |                 |              |              |
| Normal soil .....                                   | CY          | 0.889          |                 | 71.00        | 71.00        |
| Sand and gravel .....                               | CY          | 0.800          |                 | 64.00        | 64.00        |
| Medium clay .....                                   | CY          | 1.000          |                 | 80.00        | 80.00        |

## DIVISION 31 EARTHWORK

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>31231.65 HAND EXCAVATION (Cont.)</u></b>            |             |                |                 |              |              |
| To 2' deep  |             |                |                 |              |              |
| Heavy clay .....  | CY          | 1.143          | .....           | 92.00        | 92.00        |
| Loose rock .....  | CY          | 1.333          | .....           | 110.00       | 110.00       |
| To 6' deep  |             |                |                 |              |              |
| Normal soil .....   | CY          | 1.143          | .....           | 92.00        | 92.00        |
| Sand and gravel .....                                     | CY          | 1.000          | .....           | 80.00        | 80.00        |
| Medium clay .....   | CY          | 1.333          | .....           | 110.00       | 110.00       |
| Heavy clay .....  | CY          | 1.600          | .....           | 130.00       | 130.00       |
| Loose rock .....  | CY          | 2.000          | .....           | 160.00       | 160.00       |
| Backfilling foundation without compaction, 6" lifts ..... | CY          | 0.500          | .....           | 40.00        | 40.00        |
| Compaction of backfill around structures or in trench     |             |                |                 |              |              |
| By hand with air tamper .....                             | CY          | 0.571          | .....           | 45.75        | 45.75        |
| By hand with vibrating plate tamper .....                 | CY          | 0.533          | .....           | 42.75        | 42.75        |
| 1 ton roller .....  | CY          | 0.400          | .....           | 68.00        | 68.00        |
| Miscellaneous hand labor                                  |             |                |                 |              |              |
| Trim slopes, sides of excavation .....                    | SF          | 0.001          | .....           | 0.10         | 0.10         |
| Trim bottom of excavation .....                           | SF          | 0.002          | .....           | 0.12         | 0.12         |
| Excavation around obstructions and services .....         | CY          | 2.667          | .....           | 210.00       | 210.00       |

### **31231.67 UTILITY EXCAVATION**

|   |    |       |       |       |       |
|---|----|-------|-------|-------|-------|
| UTILITY EXCAVATION  |    |       |       |       |       |
| Trencher, sandy clay, 8" wide trench                        |    |       |       |       |       |
| 18" deep .....  | LF | 0.018 | ..... | 3.02  | 3.02  |
| 24" deep .....  | LF | 0.020 | ..... | 3.40  | 3.40  |
| 36" deep .....  | LF | 0.023 | ..... | 3.89  | 3.89  |
| Trench backfill, 95% compaction                             |    |       |       |       |       |
| Tamp by hand .....  | CY | 0.500 | ..... | 40.00 | 40.00 |
| Vibratory compaction .....                                  | CY | 0.400 | ..... | 32.00 | 32.00 |
| Trench backfilling, with borrow sand, place & compact ..... | CY | 0.400 | 38.50 | 32.00 | 70.50 |

### **31231.68 ROADWAY EXCAVATION**

|                          |    |       |       |      |      |
|--------------------------|----|-------|-------|------|------|
| ROADWAY EXCAVATION       |    |       |       |      |      |
| Roadway excavation       |    |       |       |      |      |
| 1/4 mile haul .....      | CY | 0.016 | ..... | 3.89 | 3.89 |
| 2 mile haul .....        | CY | 0.027 | ..... | 6.48 | 6.48 |
| 5 mile haul .....        | CY | 0.040 | ..... | 9.73 | 9.73 |
| Spread base course ..... | CY | 0.020 | ..... | 4.86 | 4.86 |
| Roll and compact .....   | CY | 0.027 | ..... | 6.48 | 6.48 |

### **31231.69 HAULING MATERIAL**

|  |    |       |       |       |       |
|--|----|-------|-------|-------|-------|
| HAULING MATERIAL   |    |       |       |       |       |
| Haul material by 10 c.y. dump truck, round trip distance |    |       |       |       |       |
| 1 mile .....   | CY | 0.044 | ..... | 7.56  | 7.56  |
| 2 mile .....   | CY | 0.053 | ..... | 9.07  | 9.07  |
| 5 mile .....   | CY | 0.073 | ..... | 12.25 | 12.25 |
| 10 mile .....  | CY | 0.080 | ..... | 13.50 | 13.50 |
| 20 mile .....  | CY | 0.089 | ..... | 15.25 | 15.25 |
| 30 mile .....  | CY | 0.107 | ..... | 18.25 | 18.25 |

### **31233.36 TRENCHING**

|   |    |       |       |      |      |
|---|----|-------|-------|------|------|
| TRENCHING                                   |    |       |       |      |      |
| Trenching and continuous footing excavation |    |       |       |      |      |
| By gradall                                  |    |       |       |      |      |
| 1 c.y. capacity                             |    |       |       |      |      |
| Light soil .....                            | CY | 0.023 | ..... | 5.56 | 5.56 |
| Medium soil .....                           | CY | 0.025 | ..... | 5.98 | 5.98 |
| Heavy/wet soil .....                        | CY | 0.027 | ..... | 6.48 | 6.48 |
| Loose rock .....                            | CY | 0.029 | ..... | 7.07 | 7.07 |
| Blasted rock .....                          | CY | 0.031 | ..... | 7.48 | 7.48 |
| By hydraulic excavator                      |    |       |       |      |      |
| 1/2 c.y. capacity                           |    |       |       |      |      |
| Light soil .....                            | CY | 0.027 | ..... | 6.48 | 6.48 |
| Medium soil .....                           | CY | 0.029 | ..... | 7.07 | 7.07 |
| Heavy/wet soil .....                        | CY | 0.032 | ..... | 7.78 | 7.78 |
| Loose rock .....                            | CY | 0.036 | ..... | 8.65 | 8.65 |
| Blasted rock .....                          | CY | 0.040 | ..... | 9.73 | 9.73 |

## DIVISION 31 EARTHWORK

|                                   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|-----------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>31233.36 TRENCHING (Cont.)</b> |             |                |                 |              |              |
| By hydraulic excavator            |             |                |                 |              |              |
| 1 c.y. capacity                   |             |                |                 |              |              |
| Light soil .....                  | CY          | 0.019          |                 | 4.57         | 4.57         |
| Medium soil .....                 | CY          | 0.020          |                 | 4.86         | 4.86         |
| Heavy/wet soil .....              | CY          | 0.021          |                 | 5.19         | 5.19         |
| Loose rock .....                  | CY          | 0.023          |                 | 5.56         | 5.56         |
| Blasted rock .....                | CY          | 0.025          |                 | 5.98         | 5.98         |
| 1-1/2 c.y. capacity               |             |                |                 |              |              |
| Light soil .....                  | CY          | 0.017          |                 | 4.09         | 4.09         |
| Medium soil .....                 | CY          | 0.018          |                 | 4.32         | 4.32         |
| Heavy/wet soil .....              | CY          | 0.019          |                 | 4.57         | 4.57         |
| Loose rock .....                  | CY          | 0.020          |                 | 4.86         | 4.86         |
| Blasted rock .....                | CY          | 0.021          |                 | 5.19         | 5.19         |
| 2 c.y. capacity                   |             |                |                 |              |              |
| Light soil .....                  | CY          | 0.016          |                 | 3.89         | 3.89         |
| Medium soil .....                 | CY          | 0.017          |                 | 4.09         | 4.09         |
| Heavy/wet soil .....              | CY          | 0.018          |                 | 4.32         | 4.32         |
| Loose rock .....                  | CY          | 0.019          |                 | 4.57         | 4.57         |
| Blasted rock .....                | CY          | 0.020          |                 | 4.86         | 4.86         |
| Hand excavation                   |             |                |                 |              |              |
| Bulk, wheeled 100'                |             |                |                 |              |              |
| Normal soil.....                  | CY          | 0.889          |                 | 71.00        | 71.00        |
| Sand or gravel .....              | CY          | 0.800          |                 | 64.00        | 64.00        |
| Medium clay .....                 | CY          | 1.143          |                 | 92.00        | 92.00        |
| Heavy clay .....                  | CY          | 1.600          |                 | 130.00       | 130.00       |
| Loose rock .....                  | CY          | 2.000          |                 | 160.00       | 160.00       |
| Trenches, up to 2' deep           |             |                |                 |              |              |
| Normal soil.....                  | CY          | 1.000          |                 | 80.00        | 80.00        |
| Sand or gravel .....              | CY          | 0.889          |                 | 71.00        | 71.00        |
| Medium clay .....                 | CY          | 1.333          |                 | 110.00       | 110.00       |
| Heavy clay .....                  | CY          | 2.000          |                 | 160.00       | 160.00       |
| Loose rock .....                  | CY          | 2.667          |                 | 210.00       | 210.00       |
| Trenches, to 6' deep              |             |                |                 |              |              |
| Normal soil.....                  | CY          | 1.143          |                 | 92.00        | 92.00        |
| Sand or gravel .....              | CY          | 1.000          |                 | 80.00        | 80.00        |
| Medium clay .....                 | CY          | 1.600          |                 | 130.00       | 130.00       |
| Heavy clay .....                  | CY          | 2.667          |                 | 210.00       | 210.00       |
| Loose rock .....                  | CY          | 4.000          |                 | 320.00       | 320.00       |
| Backfill trenches                 |             |                |                 |              |              |
| With compaction                   |             |                |                 |              |              |
| By hand .....                     | CY          | 0.667          |                 | 53.00        | 53.00        |
| By 60 hp tracked dozer.....       | CY          | 0.020          |                 | 3.40         | 3.40         |

## **31311.60 SOIL TREATMENT**

|  |    |       |      |      |      |
|--|----|-------|------|------|------|
| SOIL TREATMENT                               |    |       |      |      |      |
| Soil treatment, termite control pretreatment |    |       |      |      |      |
| Under slabs .....                            | SF | 0.004 | 0.77 | 0.35 | 1.12 |
| By walls .....                               | SF | 0.005 | 0.77 | 0.42 | 1.19 |

## **31320.05 SOIL STABILIZATION**

|   |    |       |      |      |       |
|---|----|-------|------|------|-------|
| SOIL STABILIZATION  |    |       |      |      |       |
| Straw bale secured with rebar .....                               | LF | 0.027 | 9.15 | 2.13 | 11.28 |
| Filter barrier, 18" high filter fabric .....                      | LF | 0.080 | 2.21 | 6.40 | 8.61  |
| Sediment fence, 36" fabric with 6" mesh .....                     | LF | 0.100 | 5.24 | 8.00 | 13.24 |
| Soil stabilization with tar paper, burlap, straw and stakes ..... | SF | 0.001 | 0.44 | 0.09 | 0.53  |

## **31370.01 RIPRAP**

|  |     |       |       |        |        |
|--|-----|-------|-------|--------|--------|
| RIPRAP   |     |       |       |        |        |
| Riprap   |     |       |       |        |        |
| Crushed stone blanket, max size 2-1/2" .....               | TON | 0.533 | 44.25 | 100.00 | 144.25 |
| Stone, quarry run, 300 lb. stones .....                    | TON | 0.492 | 55.00 | 95.00  | 150.00 |
| 400 lb. stones .....                                       | TON | 0.457 | 58.00 | 88.00  | 146.00 |
| 500 lb. stones .....                                       | TON | 0.427 | 60.00 | 82.00  | 142.00 |
| 750 lb. stones .....                                       | TON | 0.400 | 62.00 | 77.00  | 139.00 |
| Dry concrete riprap in bags 3" thick, 80 lb. per bag ..... | BAG | 0.027 | 7.45  | 5.13   | 12.58  |

## DIVISION 31 EARTHWORK

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>31621.65 STEEL PILES</b>                      |             |                |                 |              |              |
| STEEL PILES                                      |             |                |                 |              |              |
| H-section piles                                  |             |                |                 |              |              |
| 8x8  |             |                |                 |              |              |
| 36 lb/ft   |             |                |                 |              |              |
| 30' long   | LF          | 0.080          | 32.75           | 17.75        | 50.50        |
| 40' long   | LF          | 0.064          | 32.75           | 14.25        | 47.00        |
| Tapered friction piles, fluted casing, up to 50' |             |                |                 |              |              |
| With 4000 psi concrete no reinforcing            |             |                |                 |              |              |
| 12" dia.   | LF          | 0.048          | 25.75           | 10.50        | 36.25        |
| 14" dia.   | LF          | 0.049          | 29.75           | 11.00        | 40.75        |
| <b>31621.66 STEEL PIPE PILES</b>                 |             |                |                 |              |              |
| STEEL PIPE PILES                                 |             |                |                 |              |              |
| Concrete filled, 3000# concrete, up to 40'       |             |                |                 |              |              |
| 8" dia.  | LF          | 0.069          | 32.50           | 15.25        | 47.75        |
| 10" dia.   | LF          | 0.071          | 41.75           | 15.75        | 57.50        |
| 12" dia.   | LF          | 0.074          | 48.25           | 16.25        | 64.50        |
| Pipe piles, non-filled                           |             |                |                 |              |              |
| 8" dia.  | LF          | 0.053          | 26.75           | 11.75        | 38.50        |
| 10" dia.   | LF          | 0.055          | 33.75           | 12.00        | 45.75        |
| 12" dia.   | LF          | 0.056          | 41.25           | 12.50        | 53.75        |
| Splice   |             |                |                 |              |              |
| 8" dia.  | EA          | 1.600          | 120.00          | 130.00       | 250.00       |
| 10" dia.   | EA          | 1.600          | 130.00          | 130.00       | 260.00       |
| 12" dia.   | EA          | 2.000          | 140.00          | 160.00       | 300.00       |
| Standard point                                   |             |                |                 |              |              |
| 8" dia.  | EA          | 1.600          | 150.00          | 130.00       | 280.00       |
| 10" dia.   | EA          | 1.600          | 190.00          | 130.00       | 320.00       |
| 12" dia.   | EA          | 2.000          | 210.00          | 160.00       | 370.00       |
| Heavy duty point                                 |             |                |                 |              |              |
| 8" dia.  | EA          | 2.000          | 260.00          | 160.00       | 420.00       |
| 10" dia.   | EA          | 2.000          | 360.00          | 160.00       | 520.00       |
| 12" dia.   | EA          | 2.667          | 390.00          | 210.00       | 600.00       |
| <b>31621.90 WOOD AND TIMBER PILES</b>            |             |                |                 |              |              |
| WOOD AND TIMBER PILES                            |             |                |                 |              |              |
| Treated wood piles, 12" butt, 8" tip             |             |                |                 |              |              |
| 25' long   | LF          | 0.096          | 18.00           | 21.25        | 39.25        |
| 30' long   | LF          | 0.080          | 19.25           | 17.75        | 37.00        |
| 35' long   | LF          | 0.069          | 19.25           | 15.25        | 34.50        |
| 40' long   | LF          | 0.060          | 19.25           | 13.25        | 32.50        |
| <b>31631.35 PRESTRESSED PILING</b>               |             |                |                 |              |              |
| PRESTRESSED PILING                               |             |                |                 |              |              |
| Prestressed concrete piling, less than 60' long  |             |                |                 |              |              |
| 10" sq.  | LF          | 0.040          | 23.00           | 8.84         | 31.84        |
| 12" sq.  | LF          | 0.042          | 32.00           | 9.22         | 41.22        |
| Straight cylinder, less than 60' long            |             |                |                 |              |              |
| 12" dia.   | LF          | 0.044          | 29.75           | 9.64         | 39.39        |
| 14" dia.   | LF          | 0.045          | 40.25           | 9.86         | 50.11        |

## DIVISION 32 EXTERIOR IMPROVEMENTS

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>32121.60 ASPHALT SURFACES</b>                         |             |                |                 |              |              |
| ASPHALT SURFACES   |             |                |                 |              |              |
| Asphalt wearing surface, flexible pavement               |             |                |                 |              |              |
| 1" thick .....   | SY          | 0.016          | 5.07            | 3.53         | 8.60         |
| 1-1/2" thick .....                                       | SY          | 0.019          | 7.61            | 4.24         | 11.85        |
| Binder course  |             |                |                 |              |              |
| 1-1/2" thick .....                                       | SY          | 0.018          | 7.42            | 3.92         | 11.34        |
| 2" thick .....   | SY          | 0.022          | 9.90            | 4.82         | 14.72        |
| Bituminous sidewalk, no base                             |             |                |                 |              |              |
| 2" thick .....   | SY          | 0.028          | 10.75           | 4.12         | 14.87        |
| 3" thick .....   | SY          | 0.030          | 16.25           | 4.38         | 20.63        |
| <b>32131.30 CONCRETE PAVING</b>                          |             |                |                 |              |              |
| CONCRETE PAVING  |             |                |                 |              |              |
| Concrete paving, reinforced, 5000 psi concrete           |             |                |                 |              |              |
| 6" thick .....   | SY          | 0.150          | 38.00           | 33.25        | 71.25        |
| 7" thick .....   | SY          | 0.160          | 44.25           | 35.25        | 79.50        |
| 8" thick .....   | SY          | 0.171          | 51.00           | 38.00        | 89.00        |
| <b>32131.31 SIDEWALKS, CONCRETE</b>                      |             |                |                 |              |              |
| SIDEWALKS, CONCRETE                                      |             |                |                 |              |              |
| Walks, with wire mesh, base not incl.                    |             |                |                 |              |              |
| 4" thick .....   | SF          | 0.027          | 2.89            | 2.13         | 5.02         |
| 5" thick .....   | SF          | 0.032          | 3.90            | 2.56         | 6.46         |
| 6" thick .....   | SF          | 0.040          | 4.80            | 3.20         | 8.00         |
| <b>32141.60 PAVERS, MASONRY</b>                          |             |                |                 |              |              |
| PAVERS, MASONRY  |             |                |                 |              |              |
| Brick walk laid on sand, sand joints                     |             |                |                 |              |              |
| Laid flat (4.5 per sf).....                              | SF          | 0.089          | 4.73            | 8.67         | 13.40        |
| Laid on edge (7.2 per sf) .....                          | SF          | 0.133          | 7.56            | 13.00        | 20.56        |
| Precast concrete patio blocks                            |             |                |                 |              |              |
| 2" thick   |             |                |                 |              |              |
| Natural .....  | SF          | 0.027          | 3.48            | 2.60         | 6.08         |
| Colors .....   | SF          | 0.027          | 4.86            | 2.60         | 7.46         |
| Exposed aggregates, local aggregate                      |             |                |                 |              |              |
| Natural .....  | SF          | 0.027          | 10.50           | 2.60         | 13.10        |
| Colors .....   | SF          | 0.027          | 10.50           | 2.60         | 13.10        |
| Granite or limestone aggregate .....                     | SF          | 0.027          | 11.00           | 2.60         | 13.60        |
| White tumblestone aggregate .....                        | SF          | 0.027          | 7.86            | 2.60         | 10.46        |
| Stone pavers, set in mortar                              |             |                |                 |              |              |
| Bluestone  |             |                |                 |              |              |
| 1" thick   |             |                |                 |              |              |
| Irregular .....  | SF          | 0.200          | 7.99            | 19.50        | 27.49        |
| Snapped rectangular .....                                | SF          | 0.160          | 12.25           | 15.50        | 27.75        |
| 1-1/2" thick, random rectangular .....                   | SF          | 0.200          | 14.00           | 19.50        | 33.50        |
| 2" thick, random rectangular .....                       | SF          | 0.229          | 16.50           | 22.25        | 38.75        |
| Slate  |             |                |                 |              |              |
| Natural cleft  |             |                |                 |              |              |
| Irregular, 3/4" thick .....                              | SF          | 0.229          | 10.00           | 22.25        | 32.25        |
| Random rectangular                                       |             |                |                 |              |              |
| 1-1/4" thick .....                                       | SF          | 0.200          | 21.75           | 19.50        | 41.25        |
| 1-1/2" thick .....                                       | SF          | 0.222          | 24.50           | 21.75        | 46.25        |
| Granite blocks   |             |                |                 |              |              |
| 3" thick, 3" to 6" wide                                  |             |                |                 |              |              |
| 4" to 12" long .....                                     | SF          | 0.267          | 14.25           | 26.00        | 40.25        |
| 6" to 15" long .....                                     | SF          | 0.229          | 9.30            | 22.25        | 31.55        |
| <b>32311.30 CHAIN LINK FENCE</b>                         |             |                |                 |              |              |
| CHAIN LINK FENCE   |             |                |                 |              |              |
| Chain link fence, 9 ga., galvanized, with posts 10' o.c. |             |                |                 |              |              |
| 4' high .....  | LF          | 0.057          | 8.52            | 4.57         | 13.09        |
| 5' high .....  | LF          | 0.073          | 11.50           | 5.82         | 17.32        |
| 6' high .....  | LF          | 0.100          | 13.00           | 8.00         | 21.00        |
| Corner or gate post, 3" post                             |             |                |                 |              |              |
| 4' high .....  | EA          | 0.267          | 99.00           | 21.25        | 120.25       |
| 5' high .....  | EA          | 0.296          | 110.00          | 23.75        | 133.75       |
| 6' high .....  | EA          | 0.348          | 120.00          | 27.75        | 147.75       |

## DIVISION 32 EXTERIOR IMPROVEMENTS

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>32311.30 CHAIN LINK FENCE (Cont.)</b>                 |             |                |                 |              |              |
| Chain link fence, 9 ga., galvanized, with posts 10' o.c. |             |                |                 |              |              |
| Gate with gate posts, galvanized, 3' wide                |             |                |                 |              |              |
| 4' high .....  | EA          | 2.000          | 140.00          | 160.00       | 300.00       |
| 5' high .....  | EA          | 2.667          | 180.00          | 210.00       | 390.00       |
| 6' high .....  | EA          | 2.667          | 220.00          | 210.00       | 430.00       |
| Fabric, galvanized chain link, 2" mesh, 9 ga.            |             |                |                 |              |              |
| 4' high .....  | LF          | 0.027          | 5.56            | 2.13         | 7.69         |
| 5' high .....  | LF          | 0.032          | 6.81            | 2.56         | 9.37         |
| 6' high .....  | LF          | 0.040          | 9.52            | 3.20         | 12.72        |
| Line post, no rail fitting, galvanized, 2-1/2" dia.      |             |                |                 |              |              |
| 4' high .....  | EA          | 0.229          | 32.25           | 18.25        | 50.50        |
| 5' high .....  | EA          | 0.250          | 35.00           | 20.00        | 55.00        |
| 6' high .....  | EA          | 0.267          | 38.50           | 21.25        | 59.75        |
| Vinyl coated, 9 ga., with posts 10' o.c.                 |             |                |                 |              |              |
| 4' high .....  | LF          | 0.057          | 13.75           | 4.57         | 18.32        |
| 5' high .....  | LF          | 0.073          | 16.50           | 5.82         | 22.32        |
| 6' high .....  | LF          | 0.100          | 19.75           | 8.00         | 27.75        |
| Gate, with posts, 3' wide                                |             |                |                 |              |              |
| 4' high .....  | EA          | 2.000          | 160.00          | 160.00       | 320.00       |
| 5' high .....  | EA          | 2.667          | 190.00          | 210.00       | 400.00       |
| 6' high .....  | EA          | 2.667          | 220.00          | 210.00       | 430.00       |
| Fabric, vinyl, chain link, 2" mesh, 9 ga.                |             |                |                 |              |              |
| 4' high .....  | LF          | 0.027          | 5.21            | 2.13         | 7.34         |
| 5' high .....  | LF          | 0.032          | 6.37            | 2.56         | 8.93         |
| 6' high .....  | LF          | 0.040          | 8.91            | 3.20         | 12.11        |
| Swing gates, galvanized, 4' high                         |             |                |                 |              |              |
| Single gate  |             |                |                 |              |              |
| 3' wide .....  | EA          | 2.000          | 210.00          | 160.00       | 370.00       |
| 4' wide .....  | EA          | 2.000          | 230.00          | 160.00       | 390.00       |
| 6' high  |             |                |                 |              |              |
| Single gate  |             |                |                 |              |              |
| 3' wide .....  | EA          | 2.667          | 280.00          | 210.00       | 490.00       |
| 4' wide .....  | EA          | 2.667          | 300.00          | 210.00       | 510.00       |

### **32319.01 SHRUB & TREE MAINTENANCE**

#### SHRUB & TREE MAINTENANCE

|                       |    |       |        |        |  |
|-----------------------|----|-------|--------|--------|--|
| Moving shrubs on site |    |       |        |        |  |
| 3' high .....         | EA | 0.800 | 64.00  | 64.00  |  |
| 4' high .....         | EA | 0.889 | 71.00  | 71.00  |  |
| Moving trees on site  |    |       |        |        |  |
| 6' high .....         | EA | 0.533 | 78.00  | 78.00  |  |
| 8' high .....         | EA | 0.600 | 88.00  | 88.00  |  |
| 10' high .....        | EA | 0.800 | 120.00 | 120.00 |  |
| Palm trees            |    |       |        |        |  |
| 10' high .....        | EA | 0.800 | 120.00 | 120.00 |  |
| 40' high .....        | EA | 4.800 | 700.00 | 700.00 |  |

### **32319.02 FERTILIZING**

#### FERTILIZING

|                           |      |        |        |          |          |
|---------------------------|------|--------|--------|----------|----------|
| Fertilizing (23#/1000 sf) |      |        |        |          |          |
| By square yard .....      | SY   | 0.002  | 0.04   | 0.21     | 0.25     |
| By acre .....             | ACRE | 10.000 | 210.00 | 1,070.00 | 1,280.00 |
| Liming (70#/1000 sf)      |      |        |        |          |          |
| By square yard .....      | SY   | 0.003  | 0.05   | 0.28     | 0.33     |
| By acre .....             | ACRE | 13.333 | 220.00 | 1,430.00 | 1,650.00 |

### **32319.03 WEED CONTROL**

#### WEED CONTROL

|  |      |       |        |        |        |
|--|------|-------|--------|--------|--------|
| Weed control, bromicil, 15 lb./acre, wettable powder ..... | ACRE | 4.000 | 330.00 | 320.00 | 650.00 |
| Vegetation control, by application of plant killer .....   | SY   | 0.003 | 0.02   | 0.25   | 0.27   |
| Weed killer, lawns and fields .....                        | SY   | 0.002 | 0.27   | 0.12   | 0.39   |

### **32840.04 LAWN IRRIGATION**

#### LAWN IRRIGATION

|                              |      |  |  |  |           |
|------------------------------|------|--|--|--|-----------|
| Residential system, complete |      |  |  |  |           |
| Minimum .....                | ACRE |  |  |  | 24,060.00 |
| Maximum .....                | ACRE |  |  |  | 45,790.00 |

## DIVISION 32 EXTERIOR IMPROVEMENTS

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>32911.91 TOPSOIL</b>                                     |             |                |                 |              |              |
| TOPSOIL   |             |                |                 |              |              |
| Spread topsoil, with equipment                              |             |                |                 |              |              |
| Minimum .....   | CY          | 0.080          |                 | 19.50        | 19.50        |
| Maximum .....   | CY          | 0.100          |                 | 24.25        | 24.25        |
| By hand   |             |                |                 |              |              |
| Minimum .....   | CY          | 0.800          |                 | 64.00        | 64.00        |
| Maximum .....   | CY          | 1.000          |                 | 80.00        | 80.00        |
| Area prep. seeding (grade, rake and clean)                  |             |                |                 |              |              |
| Square yard .....   | SY          | 0.006          |                 | 0.51         | 0.51         |
| By acre .....   | ACRE        | 32.000         |                 | 2,560.00     | 2,560.00     |
| Remove topsoil and stockpile on site                        |             |                |                 |              |              |
| 4" deep .....   | CY          | 0.067          |                 | 16.25        | 16.25        |
| 6" deep .....   | CY          | 0.062          |                 | 15.00        | 15.00        |
| Spreading topsoil from stock pile                           |             |                |                 |              |              |
| By loader .....   | CY          | 0.073          |                 | 17.75        | 17.75        |
| By hand .....   | CY          | 0.800          |                 | 190.00       | 190.00       |
| Top dress by hand .....                                     | SY          | 0.008          |                 | 1.94         | 1.94         |
| Place imported top soil                                     |             |                |                 |              |              |
| By loader   |             |                |                 |              |              |
| 4" deep .....   | SY          | 0.008          |                 | 1.94         | 1.94         |
| 6" deep .....   | SY          | 0.009          |                 | 2.16         | 2.16         |
| By hand   |             |                |                 |              |              |
| 4" deep .....   | SY          | 0.089          |                 | 7.11         | 7.11         |
| 6" deep .....   | SY          | 0.100          |                 | 8.00         | 8.00         |
| Plant bed preparation, 18" deep                             |             |                |                 |              |              |
| With backhoe/loader .....                                   | SY          | 0.020          |                 | 4.86         | 4.86         |
| By hand .....   | SY          | 0.133          |                 | 10.75        | 10.75        |
| <b>32921.90 SEEDING</b>                                     |             |                |                 |              |              |
| SEEDING   |             |                |                 |              |              |
| Mechanical seeding, 175 lb/acre                             |             |                |                 |              |              |
| By square yard .....  | SY          | 0.002          | 0.25            | 0.17         | 0.42         |
| By acre .....   | ACRE        | 8.000          | 980.00          | 860.00       | 1,840.00     |
| 450 lb/acre   |             |                |                 |              |              |
| By square yard .....  | SY          | 0.002          | 0.62            | 0.21         | 0.83         |
| By acre .....   | ACRE        | 10.000         | 2,430.00        | 1,070.00     | 3,500.00     |
| Synthetic turf, not including base                          |             |                |                 |              |              |
| Minimum .....   | SF          |                |                 |              | 1.45         |
| Average .....   | SF          |                |                 |              | 2.40         |
| Maximum .....   | SF          |                |                 |              | 4.23         |
| Seeding by hand, 10 lb per 100 SY                           |             |                |                 |              |              |
| By square yard .....  | SY          | 0.003          | 0.69            | 0.21         | 0.90         |
| By acre .....   | ACRE        | 13.333         | 2,710.00        | 1,070.00     | 3,780.00     |
| Reseed disturbed areas .....                                | SF          | 0.004          | 0.06            | 0.32         | 0.38         |
| <b>32932.30 PLANTS</b>                                      |             |                |                 |              |              |
| PLANTS  |             |                |                 |              |              |
| Euonymus coloratus, 18" (Purple Wintercreeper) .....        | EA          | 0.133          | 3.65            | 10.75        | 14.40        |
| Hedera Helix, 2-1/4" pot (English ivy) .....                | EA          | 0.133          | 1.52            | 10.75        | 12.27        |
| Liriope muscari, 2" clumps .....                            | EA          | 0.080          | 6.37            | 6.40         | 12.77        |
| Santolina, 12" .....  | EA          | 0.080          | 7.30            | 6.40         | 13.70        |
| Vinca major or minor, 3" pot .....                          | EA          | 0.080          | 1.19            | 6.40         | 7.59         |
| Cortaderia argentia, 2 gallon (Pampas Grass) .....          | EA          | 0.080          | 23.00           | 6.40         | 29.40        |
| Ophiopogon japonicus, 1 quart (4" pot) .....                | EA          | 0.080          | 6.37            | 6.40         | 12.77        |
| Ajuga reptans, 2-3/4" pot (carpet bugle) .....              | EA          | 0.080          | 1.19            | 6.40         | 7.59         |
| Pachysandra terminalis, 2-3/4" pot (Japanese Spurge) .....  | EA          | 0.080          | 1.61            | 6.40         | 8.01         |
| <b>32933.30 SHRUBS</b>                                      |             |                |                 |              |              |
| SHRUBS  |             |                |                 |              |              |
| Juniperus conferta litoralis, 18"-24" (Shore Juniper) ..... | EA          | 0.320          | 51.00           | 25.50        | 76.50        |
| Horizontalis plumosa, 18"-24" (Andorra Juniper) .....       | EA          | 0.320          | 54.00           | 25.50        | 79.50        |
| Sabina tamariscifolia-tamarix juniper, 18"-24" .....        | EA          | 0.320          | 54.00           | 25.50        | 79.50        |
| Chin San Jose, 18"-24" (San Jose Juniper) .....             | EA          | 0.320          | 54.00           | 25.50        | 79.50        |
| Sargentii, 18"-24" (Sargent's Juniper) .....                | EA          | 0.320          | 51.00           | 25.50        | 76.50        |
| Nandina domestica, 18"-24" (Heavenly Bamboo) .....          | EA          | 0.320          | 34.25           | 25.50        | 59.75        |
| Raphiolepis indica Springtime, 18"-24" .....                | EA          | 0.320          | 36.75           | 25.50        | 62.25        |

## DIVISION 32 EXTERIOR IMPROVEMENTS

|  | Unit | Man-Hrs | Material | Labor | Total  |
|--|------|---------|----------|-------|--------|
| <b>32933.30 SHRUBS (Cont.)</b>                     |      |         |          |       |        |
| Osmanthus Heterophyllus Gulf tide, 18"-24"         | EA   | 0.320   | 39.25    | 25.50 | 64.75  |
| Ilex Cornuta Burfordi Nana, 18"-24"                | EA   | 0.320   | 44.75    | 25.50 | 70.25  |
| Glabra, 18"-24" (Inkberry Holly)                   | EA   | 0.320   | 42.25    | 25.50 | 67.75  |
| Azalea, Indica types, 18"-24"                      | EA   | 0.320   | 47.50    | 25.50 | 73.00  |
| Kurume types, 18"-24"                              | EA   | 0.320   | 53.00    | 25.50 | 78.50  |
| Berberis Julianae, 18"-24" (Wintergreen Barberry)  | EA   | 0.320   | 31.25    | 25.50 | 56.75  |
| Pieris Japonica Japanese, 18"-24"                  | EA   | 0.320   | 31.25    | 25.50 | 56.75  |
| Ilex Cornuta Rotunda, 18"-24"                      | EA   | 0.320   | 37.00    | 25.50 | 62.50  |
| Juniperus Horiz. Plumosa, 24"-30"                  | EA   | 0.400   | 34.00    | 32.00 | 66.00  |
| Rhodopendrow Hybrids, 24"-30"                      | EA   | 0.400   | 91.00    | 32.00 | 123.00 |
| Aucuba Japonica Varigata, 24"-30"                  | EA   | 0.400   | 31.00    | 32.00 | 63.00  |
| Ilex Crenata Willow Leaf, 24"-30"                  | EA   | 0.400   | 34.00    | 32.00 | 66.00  |
| Cleyera Japonica, 30"-36"                          | EA   | 0.500   | 39.75    | 40.00 | 79.75  |
| Pittosporum Tobira, 30"-36"                        | EA   | 0.500   | 46.50    | 40.00 | 86.50  |
| Prunus Laurocerasus, 30"-36"                       | EA   | 0.500   | 86.00    | 40.00 | 126.00 |
| Ilex Cornuta Burfordi, 30"-36" (Burford Holly)     | EA   | 0.500   | 45.50    | 40.00 | 85.50  |
| Abelia Grandiflora, 24"-36" (Yew Podocarpus)       | EA   | 0.400   | 31.25    | 32.00 | 63.25  |
| Podocarpos Macrophylla, 24"-36"                    | EA   | 0.400   | 51.00    | 32.00 | 83.00  |
| Pyracantha Coccinea Lalandi, 3'-4' (Firethorn)     | EA   | 0.500   | 29.00    | 40.00 | 69.00  |
| Photinia Frazieri, 3'-4' (Red Photinia)            | EA   | 0.500   | 46.25    | 40.00 | 86.25  |
| Forsythia Suspensa, 3'-4' (Weeping Forsythia)      | EA   | 0.500   | 29.00    | 40.00 | 69.00  |
| Camellia Japonica, 3'-4' (Common Camellia)         | EA   | 0.500   | 51.00    | 40.00 | 91.00  |
| Juniperus Chin Torulosa, 3'-4' (Hollywood Juniper) | EA   | 0.500   | 54.00    | 40.00 | 94.00  |
| Cupressocyparis Leylandii, 3'-4'                   | EA   | 0.500   | 45.75    | 40.00 | 85.75  |
| Ilex Opaca Fosteri, 5'-6' (Foster's Holly)         | EA   | 0.667   | 180.00   | 53.00 | 233.00 |
| Opaca, 5'-6' (American Holly)                      | EA   | 0.667   | 270.00   | 53.00 | 323.00 |
| Nyrica Cerifera, 4'-5' (Southern Wax Myrtles)      | EA   | 0.571   | 58.00    | 45.75 | 103.75 |
| Ligustrum Japonicum, 4'-5' (Japanese Privet)       | EA   | 0.571   | 45.50    | 45.75 | 91.25  |

### **32934.30 TREES**

#### TREES

|   |    |       |        |        |        |
|---|----|-------|--------|--------|--------|
| Cornus Florida, 5'-6' (White flowering Dogwood)   | EA | 0.667 | 120.00 | 53.00  | 173.00 |
| Prunus Serrulata Kwanzan, 6'-8' (Kwanzan Cherry)  | EA | 0.800 | 130.00 | 64.00  | 194.00 |
| Caroliniana, 6'-8' (Carolina Cherry Laurel)       | EA | 0.800 | 160.00 | 64.00  | 224.00 |
| Cercis Canadensis, 6'-8' (Eastern Redbud)         | EA | 0.800 | 110.00 | 64.00  | 174.00 |
| Koelreuteria Paniculata, 8'-10' (Goldenrain Tree) | EA | 1.000 | 190.00 | 80.00  | 270.00 |
| Acer Platanoides, 1-3/4"-2" (11'-13')             | EA | 1.333 | 250.00 | 110.00 | 360.00 |
| Rubrum, 1-3/4"-2" (11'-13') (Red Maple)           | EA | 1.333 | 190.00 | 110.00 | 300.00 |
| Saccharum, 1-3/4"-2" (Sugar Maple)                | EA | 1.333 | 340.00 | 110.00 | 450.00 |
| Prunus Cerasifera "Thundercloud", 6'-8'           | EA | 0.800 | 130.00 | 64.00  | 194.00 |
| Yeodensis, 6'-8' (Yoshino Cherry)                 | EA | 0.800 | 140.00 | 64.00  | 204.00 |
| Lagerstroemia Indica, 8'-10' (Crape Myrtle)       | EA | 1.000 | 220.00 | 80.00  | 300.00 |
| Crataegus Phaenopyrum, 8'-10'                     | EA | 1.000 | 340.00 | 80.00  | 420.00 |
| Quercus Borealis, 1-3/4"-2" (Northern Red Oak)    | EA | 1.333 | 200.00 | 110.00 | 310.00 |
| Quercus Acutissima, 1-3/4"-2" (8'-10')            | EA | 1.333 | 190.00 | 110.00 | 300.00 |
| Salix Babylonica, 1-3/4"-2" (Weeping Willow)      | EA | 1.333 | 94.00  | 110.00 | 204.00 |
| Malus, 2"-2-1/2" (8'-10') (Flowering Crabapple)   | EA | 1.333 | 200.00 | 110.00 | 310.00 |
| Pyrus Calleryana Bradford, 2"-2-1/2"              | EA | 1.333 | 240.00 | 110.00 | 350.00 |
| Quercus Palustris, 2"-2-1/2" (12'-14') (Pin Oak)  | EA | 1.333 | 270.00 | 110.00 | 380.00 |
| Phellos, 2-1/2"-3" (Willow Oak)                   | EA | 1.600 | 290.00 | 130.00 | 420.00 |
| Nigra, 2"-2-1/2" (Water Oak)                      | EA | 1.333 | 250.00 | 110.00 | 360.00 |
| Magnolia Soulangeana, 4'-5' (Saucer Magnolia)     | EA | 0.667 | 150.00 | 53.00  | 203.00 |
| Grandiflora, 6'-8' (Southern Magnolia)            | EA | 0.800 | 200.00 | 64.00  | 264.00 |
| Cedrus Deodara, 10'-12' (Deodare Cedar)           | EA | 1.333 | 330.00 | 110.00 | 440.00 |
| Gingko Biloba, 10'-12' (2"-2-1/2")                | EA | 1.333 | 310.00 | 110.00 | 420.00 |
| Pinus Thunbergi, 5'-6' (Japanese Black Pine)      | EA | 0.667 | 120.00 | 53.00  | 173.00 |
| Strobus, 6'-8' (White Pine)                       | EA | 0.800 | 140.00 | 64.00  | 204.00 |
| Taeda, 6'-8' (Loblolly Pine)                      | EA | 0.800 | 120.00 | 64.00  | 184.00 |
| Quercus Virginiana, 2"-2-1/2" (Live Oak)          | EA | 1.600 | 290.00 | 130.00 | 420.00 |

### **32940.02 LANDSCAPE ACCESSORIES**

#### LANDSCAPE ACCESSORIES

|   |    |       |       |       |       |
|---|----|-------|-------|-------|-------|
| Steel edging, 3/16" x 4"                    | LF | 0.010 | 5.33  | 0.80  | 6.13  |
| Landscaping stepping stones, 15"x15", white | EA | 0.040 | 8.01  | 3.20  | 11.21 |
| Wood chip mulch                             | CY | 0.533 | 51.00 | 42.75 | 93.75 |
| 2" thick                                    | SY | 0.016 | 3.12  | 1.28  | 4.40  |

## DIVISION 32 EXTERIOR IMPROVEMENTS

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|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b>32940.02 LANDSCAPE ACCESSORIES (Cont.)</b> |             |                |                 |              |              |
| Wood chip mulch                               |             |                |                 |              |              |
| 4" thick .....                                | SY          | 0.023          | 5.88            | 1.83         | 7.71         |
| 6" thick .....                                | SY          | 0.029          | 8.80            | 2.32         | 11.12        |
| Gravel mulch, 3/4" stone .....                | CY          | 0.800          | 40.25           | 64.00        | 104.25       |
| White marble chips, 1" deep .....             | SF          | 0.008          | 0.88            | 0.64         | 1.52         |
| Peat moss                                     |             |                |                 |              |              |
| 2" thick .....                                | SY          | 0.018          | 5.47            | 1.42         | 6.89         |
| 4" thick .....                                | SY          | 0.027          | 10.50           | 2.13         | 12.63        |
| 6" thick .....                                | SY          | 0.033          | 16.00           | 2.66         | 18.66        |
| Landscaping timbers, treated lumber           |             |                |                 |              |              |
| 4" x 4" .....                                 | LF          | 0.027          | 4.48            | 2.13         | 6.61         |
| 6" x 6" .....                                 | LF          | 0.029          | 10.50           | 2.28         | 12.78        |
| 8" x 8" .....                                 | LF          | 0.033          | 12.75           | 2.66         | 15.41        |

## DIVISION 33 UTILITIES

|   | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|---|-------------|----------------|-----------------|--------------|--------------|
| <b><u>33110.04 DUCTILE IRON PIPE</u></b>        |             |                |                 |              |              |
| DUCTILE IRON PIPE                               |             |                |                 |              |              |
| Ductile iron pipe, cement lined, slip-on joints |             |                |                 |              |              |
| 4" .....  | LF          | 0.067          | 21.25           | 9.75         | 31.00        |
| 6" .....  | LF          | 0.071          | 24.50           | 10.25        | 34.75        |
| 8" .....  | LF          | 0.075          | 32.00           | 11.00        | 43.00        |
| Mechanical joint pipe                           |             |                |                 |              |              |
| 4" .....  | LF          | 0.092          | 49.00           | 13.50        | 62.50        |
| 6" .....  | LF          | 0.100          | 58.00           | 14.50        | 72.50        |
| 8" .....  | LF          | 0.109          | 77.00           | 16.00        | 93.00        |
| Fittings, mechanical joint                      |             |                |                 |              |              |
| 90 degree elbow                                 |             |                |                 |              |              |
| 4" .....  | EA          | 0.533          | 230.00          | 42.75        | 272.75       |
| 6" .....  | EA          | 0.615          | 370.00          | 49.25        | 419.25       |
| 8" .....  | EA          | 0.800          | 530.00          | 64.00        | 594.00       |
| 45 degree elbow                                 |             |                |                 |              |              |
| 4" .....  | EA          | 0.533          | 240.00          | 42.75        | 282.75       |
| 6" .....  | EA          | 0.615          | 330.00          | 49.25        | 379.25       |
| 8" .....  | EA          | 0.800          | 470.00          | 64.00        | 534.00       |
| <b><u>33110.06 PLASTIC PIPE</u></b>             |             |                |                 |              |              |
| PLASTIC PIPE                                    |             |                |                 |              |              |
| PVC, class 150 pipe                             |             |                |                 |              |              |
| 4" dia. ....                                    | LF          | 0.060          | 8.30            | 8.77         | 17.07        |
| 6" dia. ....                                    | LF          | 0.065          | 15.75           | 9.48         | 25.23        |
| 8" dia. ....                                    | LF          | 0.069          | 25.00           | 10.00        | 35.00        |
| Schedule 40 pipe                                |             |                |                 |              |              |
| 1-1/2" dia. ....                                | LF          | 0.047          | 2.43            | 3.76         | 6.19         |
| 2" dia. ....                                    | LF          | 0.050          | 3.08            | 4.00         | 7.08         |
| 2-1/2" dia. ....                                | LF          | 0.053          | 4.98            | 4.27         | 9.25         |
| 3" dia. ....                                    | LF          | 0.057          | 6.34            | 4.57         | 10.91        |
| 4" dia. ....                                    | LF          | 0.067          | 9.06            | 5.33         | 14.39        |
| 6" dia. ....                                    | LF          | 0.080          | 16.25           | 6.40         | 22.65        |
| 90 degree elbows                                |             |                |                 |              |              |
| 1" ....   | EA          | 0.133          | 1.40            | 10.75        | 12.15        |
| 1-1/2" ....                                     | EA          | 0.133          | 2.68            | 10.75        | 13.43        |
| 2" ....   | EA          | 0.145          | 4.19            | 11.75        | 15.94        |
| 2-1/2" ....                                     | EA          | 0.160          | 12.75           | 12.75        | 25.50        |
| 3" ....   | EA          | 0.178          | 15.25           | 14.25        | 29.50        |
| 4" ....   | EA          | 0.200          | 24.50           | 16.00        | 40.50        |
| 6" ....   | EA          | 0.267          | 78.00           | 21.25        | 99.25        |
| 45 degree elbows                                |             |                |                 |              |              |
| 1" ....   | EA          | 0.133          | 2.15            | 10.75        | 12.90        |
| 1-1/2" ....                                     | EA          | 0.133          | 3.76            | 10.75        | 14.51        |
| 2" ....   | EA          | 0.145          | 4.89            | 11.75        | 16.64        |
| 2-1/2" ....                                     | EA          | 0.160          | 12.75           | 12.75        | 25.50        |
| 3" ....   | EA          | 0.178          | 19.75           | 14.25        | 34.00        |
| 4" ....   | EA          | 0.200          | 32.00           | 16.00        | 48.00        |
| 6" ....   | EA          | 0.267          | 79.00           | 21.25        | 100.25       |
| Tees  |             |                |                 |              |              |
| 1" ....   | EA          | 0.160          | 2.32            | 12.75        | 15.07        |
| 1-1/2" ....                                     | EA          | 0.160          | 4.46            | 12.75        | 17.21        |
| 2" ....   | EA          | 0.178          | 6.44            | 14.25        | 20.69        |
| 2-1/2" ....                                     | EA          | 0.200          | 21.25           | 16.00        | 37.25        |
| 3" ....   | EA          | 0.229          | 28.00           | 18.25        | 46.25        |
| 4" ....   | EA          | 0.267          | 45.50           | 21.25        | 66.75        |
| 6" ....   | EA          | 0.320          | 150.00          | 25.50        | 175.50       |
| Couplings                                       |             |                |                 |              |              |
| 1" ....   | EA          | 0.133          | 1.42            | 10.75        | 12.17        |
| 1-1/2" ....                                     | EA          | 0.133          | 2.04            | 10.75        | 12.79        |
| 2" ....   | EA          | 0.145          | 3.14            | 11.75        | 14.89        |
| 2-1/2" ....                                     | EA          | 0.160          | 6.90            | 12.75        | 19.65        |
| 3" ....   | EA          | 0.178          | 10.75           | 14.25        | 25.00        |
| 4" ....   | EA          | 0.200          | 14.00           | 16.00        | 30.00        |
| 6" ....   | EA          | 0.267          | 44.50           | 21.25        | 65.75        |

## DIVISION 33 UTILITIES

|                                      | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--------------------------------------|-------------|----------------|-----------------|--------------|--------------|
| <b>33110.06 PLASTIC PIPE (Cont.)</b> |             |                |                 |              |              |
| PVC, class 150 pipe                  |             |                |                 |              |              |
| Drainage pipe                        |             |                |                 |              |              |
| ABS                                  |             |                |                 |              |              |
| 1-1/4" dia.                          | LF          | 0.047          | 2.03            | 3.76         | 5.79         |
| 1-1/2" dia.                          | LF          | 0.047          | 2.46            | 3.76         | 6.22         |
| 2" dia.                              | LF          | 0.050          | 3.14            | 4.00         | 7.14         |
| 2-1/2" dia.                          | LF          | 0.053          | 4.47            | 4.27         | 8.74         |
| 3" dia.                              | LF          | 0.057          | 5.26            | 4.57         | 9.83         |
| 4" dia.                              | LF          | 0.067          | 7.17            | 5.33         | 12.50        |
| 6" dia.                              | LF          | 0.080          | 12.00           | 6.40         | 18.40        |
| 90 degree elbows                     |             |                |                 |              |              |
| 1-1/4"                               | EA          | 0.133          | 3.38            | 10.75        | 14.13        |
| 1-1/2"                               | EA          | 0.133          | 4.22            | 10.75        | 14.97        |
| 2"                                   | EA          | 0.145          | 5.09            | 11.75        | 16.84        |
| 2-1/2"                               | EA          | 0.160          | 12.25           | 12.75        | 25.00        |
| 3"                                   | EA          | 0.178          | 12.50           | 14.25        | 26.75        |
| 4"                                   | EA          | 0.200          | 22.25           | 16.00        | 38.25        |
| 6"                                   | EA          | 0.267          | 48.75           | 21.25        | 70.00        |
| 45 degree elbows                     |             |                |                 |              |              |
| 1-1/4"                               | EA          | 0.133          | 5.50            | 10.75        | 16.25        |
| 1-1/2"                               | EA          | 0.133          | 6.99            | 10.75        | 17.74        |
| 2"                                   | EA          | 0.145          | 8.66            | 11.75        | 20.41        |
| 2-1/2"                               | EA          | 0.160          | 16.25           | 12.75        | 29.00        |
| 3"                                   | EA          | 0.178          | 17.25           | 14.25        | 31.50        |
| 4"                                   | EA          | 0.200          | 32.75           | 16.00        | 48.75        |
| 6"                                   | EA          | 0.267          | 76.00           | 21.25        | 97.25        |

### **33211.30 WELLS**

#### WELLS

##### Domestic water, drilled and cased

|         |    |       |       |        |        |
|---------|----|-------|-------|--------|--------|
| 4" dia. | LF | 0.480 | 32.00 | 110.00 | 142.00 |
| 6" dia. | LF | 0.533 | 35.25 | 120.00 | 155.25 |

### **33310.03 VITRIFIED CLAY PIPE**

#### VITRIFIED CLAY PIPE

##### Vitrified clay pipe, extra strength

|          |    |       |       |       |       |
|----------|----|-------|-------|-------|-------|
| 6" dia.  | LF | 0.109 | 7.16  | 16.00 | 23.16 |
| 8" dia.  | LF | 0.114 | 8.59  | 16.75 | 25.34 |
| 10" dia. | LF | 0.120 | 13.25 | 17.50 | 30.75 |

### **33310.04 SANITARY SEWERS**

#### SANITARY SEWERS

##### Clay

|         |    |       |      |       |       |
|---------|----|-------|------|-------|-------|
| 6" pipe | LF | 0.080 | 9.41 | 11.75 | 21.16 |
|---------|----|-------|------|-------|-------|

##### PVC

|         |    |       |      |      |       |
|---------|----|-------|------|------|-------|
| 4" pipe | LF | 0.060 | 4.05 | 8.77 | 12.82 |
| 6" pipe | LF | 0.063 | 8.11 | 9.23 | 17.34 |

### **33360.01 DRAINAGE FIELDS**

#### DRAINAGE FIELDS

##### Perforated PVC pipe, for drain field

|         |    |       |      |      |       |
|---------|----|-------|------|------|-------|
| 4" pipe | LF | 0.053 | 2.70 | 7.80 | 10.50 |
| 6" pipe | LF | 0.057 | 5.08 | 8.35 | 13.43 |

### **33360.05 SEPTIC TANKS**

#### SEPTIC TANKS

##### Septic tank, precast concrete

|           |    |       |          |        |          |
|-----------|----|-------|----------|--------|----------|
| 1000 gals | EA | 4.000 | 1,230.00 | 590.00 | 1,820.00 |
| 2000 gals | EA | 6.000 | 3,320.00 | 880.00 | 4,200.00 |

##### Leaching pit, precast concrete, 72" diameter

|         |    |       |          |        |          |
|---------|----|-------|----------|--------|----------|
| 3' deep | EA | 3.000 | 940.00   | 440.00 | 1,380.00 |
| 6' deep | EA | 3.429 | 1,660.00 | 500.00 | 2,160.00 |
| 8' deep | EA | 4.000 | 2,110.00 | 590.00 | 2,700.00 |

## DIVISION 33 UTILITIES

|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>33391.33 MANHOLES</b>                             |             |                |                 |              |              |
| MANHOLES   |             |                |                 |              |              |
| Precast sections, 48" dia.                           |             |                |                 |              |              |
| Base section .....                                   | EA          | 2.000          | 450.00          | 290.00       | 740.00       |
| 10" riser .....                                      | EA          | 1.600          | 130.00          | 230.00       | 360.00       |
| 14" riser .....                                      | EA          | 1.714          | 160.00          | 250.00       | 410.00       |
| 2'8" riser .....                                     | EA          | 1.846          | 230.00          | 270.00       | 500.00       |
| 4'0" riser .....                                     | EA          | 2.000          | 430.00          | 290.00       | 720.00       |
| 2'8" cone top .....                                  | EA          | 2.400          | 280.00          | 350.00       | 630.00       |
| Precast manholes, 48" dia.                           |             |                |                 |              |              |
| 4' deep .....  | EA          | 4.800          | 920.00          | 700.00       | 1,620.00     |
| 6' deep .....  | EA          | 6.000          | 1,410.00        | 880.00       | 2,290.00     |
| 7' deep .....  | EA          | 6.857          | 1,610.00        | 1,000.00     | 2,610.00     |
| 8' deep .....  | EA          | 8.000          | 1,810.00        | 1,170.00     | 2,980.00     |
| 10' deep .....                                       | EA          | 9.600          | 2,030.00        | 1,400.00     | 3,430.00     |
| Cast-in-place, 48" dia., with frame and cover        |             |                |                 |              |              |
| 5' deep .....  | EA          | 12.000         | 780.00          | 1,760.00     | 2,540.00     |
| 6' deep .....  | EA          | 13.714         | 1,030.00        | 2,010.00     | 3,040.00     |
| 8' deep .....  | EA          | 16.000         | 1,510.00        | 2,340.00     | 3,850.00     |
| 10' deep .....                                       | EA          | 19.200         | 1,760.00        | 2,810.00     | 4,570.00     |
| Brick manholes, 48" dia. with cover, 8" thick        |             |                |                 |              |              |
| 4' deep .....  | EA          | 8.000          | 830.00          | 780.00       | 1,610.00     |
| 6' deep .....  | EA          | 8.889          | 1,050.00        | 870.00       | 1,920.00     |
| 8' deep .....  | EA          | 10.000         | 1,340.00        | 980.00       | 2,320.00     |
| 10' deep .....                                       | EA          | 11.429         | 1,670.00        | 1,110.00     | 2,780.00     |
| Frames and covers, 24" diameter                      |             |                |                 |              |              |
| 300 lb .....   | EA          | 0.800          | 470.00          | 64.00        | 534.00       |
| 400 lb .....   | EA          | 0.889          | 500.00          | 71.00        | 571.00       |
| Steps for manholes                                   |             |                |                 |              |              |
| 7" x 9" .....  | EA          | 0.160          | 20.00           | 12.75        | 32.75        |
| 8" x 9" .....  | EA          | 0.178          | 25.25           | 14.25        | 39.50        |
| <b>33461.90 UNDERDRAIN</b>                           |             |                |                 |              |              |
| UNDERDRAIN   |             |                |                 |              |              |
| Drain tile, clay                                     |             |                |                 |              |              |
| 6" pipe .....  | LF          | 0.053          | 5.71            | 7.80         | 13.51        |
| 8" pipe .....  | LF          | 0.056          | 9.12            | 8.16         | 17.28        |
| Porous concrete, standard strength                   |             |                |                 |              |              |
| 6" pipe .....  | LF          | 0.053          | 8.88            | 7.80         | 16.68        |
| 8" pipe .....  | LF          | 0.056          | 9.60            | 8.16         | 17.76        |
| Corrugated metal pipe, perforated type               |             |                |                 |              |              |
| 6" pipe .....  | LF          | 0.060          | 8.62            | 8.77         | 17.39        |
| 8" pipe .....  | LF          | 0.063          | 10.25           | 9.23         | 19.48        |
| Perforated clay pipe                                 |             |                |                 |              |              |
| 6" pipe .....  | LF          | 0.069          | 6.88            | 10.00        | 16.88        |
| 8" pipe .....  | LF          | 0.071          | 8.01            | 10.25        | 18.26        |
| Drain tile, concrete                                 |             |                |                 |              |              |
| 6" pipe .....  | LF          | 0.053          | 4.70            | 7.80         | 12.50        |
| 8" pipe .....  | LF          | 0.056          | 7.30            | 8.16         | 15.46        |
| Perforated rigid PVC underdrain pipe                 |             |                |                 |              |              |
| 4" pipe .....  | LF          | 0.040          | 2.42            | 5.85         | 8.27         |
| 6" pipe .....  | LF          | 0.048          | 4.64            | 7.02         | 11.66        |
| 8" pipe .....  | LF          | 0.053          | 7.09            | 7.80         | 14.89        |
| Underslab drainage, crushed stone                    |             |                |                 |              |              |
| 3" thick .....                                       | SF          | 0.008          | 0.36            | 1.17         | 1.53         |
| 4" thick .....                                       | SF          | 0.009          | 0.49            | 1.35         | 1.84         |
| 6" thick .....                                       | SF          | 0.010          | 0.75            | 1.46         | 2.21         |
| Plastic filter fabric for drain lines .....          | SF          | 0.008          | 0.55            | 0.64         | 1.19         |
| <b>33560.01 STORAGE TANKS</b>                        |             |                |                 |              |              |
| STORAGE TANKS  |             |                |                 |              |              |
| Oil storage tank, underground, single wall, no excv. |             |                |                 |              |              |
| Steel  |             |                |                 |              |              |
| 500 gals .....                                       | EA          | 3.000          | 5,260.00        | 440.00       | 5,700.00     |
| 1,000 gals .....                                     | EA          | 4.000          | 7,150.00        | 590.00       | 7,740.00     |

## DIVISION 33 UTILITIES

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|  | <u>Unit</u> | <u>Man-Hrs</u> | <u>Material</u> | <u>Labor</u> | <u>Total</u> |
|--|-------------|----------------|-----------------|--------------|--------------|
| <b>33560.01 STORAGE TANKS (Cont.)</b>                |             |                |                 |              |              |
| Oil storage tank, underground, single wall, no excv. |             |                |                 |              |              |
| Fiberglass, double wall                              |             |                |                 |              |              |
| 550 gals .....                                       | EA          | 4.000          | 14,870.00       | 590.00       | 15,460.00    |
| 1,000 gals .....                                     | EA          | 4.000          | 19,120.00       | 590.00       | 19,710.00    |
| Above ground   |             |                |                 |              |              |
| Steel, single wall                                   |             |                |                 |              |              |
| 275 gals .....                                       | EA          | 2.400          | 2,990.00        | 350.00       | 3,340.00     |
| 500 gals .....                                       | EA          | 4.000          | 7,480.00        | 590.00       | 8,070.00     |
| 1,000 gals .....                                     | EA          | 4.800          | 10,200.00       | 700.00       | 10,900.00    |
| Fill cap .....                                       | EA          | 0.800          | 180.00          | 90.00        | 270.00       |
| Vent cap .....                                       | EA          | 0.800          | 180.00          | 90.00        | 270.00       |
| Level indicator .....                                | EA          | 0.800          | 280.00          | 90.00        | 370.00       |

## **33711.60 UTILITY POLES & FITTINGS**

### UTILITY POLES & FITTINGS

#### Wood pole, creosoted

|           |    |       |        |        |        |
|-----------|----|-------|--------|--------|--------|
| 25' ..... | EA | 2.353 | 460.00 | 250.00 | 710.00 |
| 30' ..... | EA | 2.963 | 550.00 | 310.00 | 860.00 |

#### Treated, wood preservative, 6"x6"

|           |    |       |        |        |        |
|-----------|----|-------|--------|--------|--------|
| 8' .....  | EA | 0.500 | 82.00  | 52.00  | 134.00 |
| 10' ..... | EA | 0.800 | 120.00 | 83.00  | 203.00 |
| 12' ..... | EA | 0.889 | 130.00 | 93.00  | 223.00 |
| 14' ..... | EA | 1.333 | 160.00 | 140.00 | 300.00 |
| 16' ..... | EA | 1.600 | 190.00 | 170.00 | 360.00 |
| 18' ..... | EA | 2.000 | 220.00 | 210.00 | 430.00 |
| 20' ..... | EA | 2.000 | 280.00 | 210.00 | 490.00 |

#### Aluminum, brushed, no base

|           |    |       |          |        |          |
|-----------|----|-------|----------|--------|----------|
| 8' .....  | EA | 2.000 | 720.00   | 210.00 | 930.00   |
| 10' ..... | EA | 2.667 | 830.00   | 280.00 | 1,110.00 |
| 15' ..... | EA | 2.759 | 930.00   | 290.00 | 1,220.00 |
| 20' ..... | EA | 3.200 | 1,130.00 | 330.00 | 1,460.00 |
| 25' ..... | EA | 3.810 | 1,500.00 | 400.00 | 1,900.00 |

#### Steel, no base

|           |    |       |          |        |          |
|-----------|----|-------|----------|--------|----------|
| 10' ..... | EA | 2.500 | 1,030.00 | 260.00 | 1,290.00 |
| 15' ..... | EA | 2.963 | 1,130.00 | 310.00 | 1,440.00 |
| 20' ..... | EA | 3.810 | 1,510.00 | 400.00 | 1,910.00 |
| 25' ..... | EA | 4.520 | 1,700.00 | 470.00 | 2,170.00 |

#### Concrete, no base

|           |    |        |          |          |          |
|-----------|----|--------|----------|----------|----------|
| 13' ..... | EA | 5.517  | 1,260.00 | 570.00   | 1,830.00 |
| 16' ..... | EA | 7.273  | 1,760.00 | 760.00   | 2,520.00 |
| 18' ..... | EA | 8.791  | 2,120.00 | 920.00   | 3,040.00 |
| 25' ..... | EA | 10.000 | 2,590.00 | 1,040.00 | 3,630.00 |

# Part Three

## Square Foot Tables

*The following Square Foot Tables list hundreds of actual projects for ten building types, each with associated building size, total square foot building cost and percentage of project costs for total mechanical and electrical components. This data provides an overview of construction costs by building type. These costs are for actual projects. The variations within similar building types may be due, among other factors, to size, location, quality and specified components, materials and processes. Depending upon all such factors, specific building costs can vary significantly and may not necessarily fall within the range of costs as presented. The data has been updated to reflect current construction costs.*

| <b>BUILDING CATEGORY</b>        | <b>PAGE</b> |
|---------------------------------|-------------|
| <i>Commercial</i> .....         | 293         |
| <i>Civic / Government</i> ..... | 294         |
| <i>Educational</i> .....        | 295         |
| <i>Hotel / Motel</i> .....      | 296         |
| <i>Industrial</i> .....         | 297         |
| <i>Medical</i> .....            | 298         |
| <i>Office</i> .....             | 299         |
| <i>Recreational</i> .....       | 300         |
| <i>Religious</i> .....          | 301         |
| <i>Residential</i> .....        | 302         |

## SQUARE FOOT TABLES

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## SQUARE FOOT TABLES

| PROJECT           | DESCRIPTION                                 | CITY                 | STATE | SIZE    | \$/SF      | NOTES               |
|-------------------|---|----------------------|-------|---------|------------|---------------------|
| <i>Commercial</i> |   |                      |       |         |            |                     |
| Bank              | School Credit Union Administration Building | Katy                 | TX    | 30,700  | \$306.18   | New                 |
|                   | FineMark National Bank & Trust              | Fort Myers           | FL    | 20,039  | \$577.62   | New                 |
|                   | Florida Shores Bank                         | Pompano Beach        | FL    | 11,697  | \$735.16   | New                 |
|                   | Mobiloil Credit Union                       | Vidor                | TX    | 9,252   | \$515.57   | New                 |
|                   | Beaumont Community Credit Union             | Beaumont             | TX    | 3,267   | \$584.49   | New                 |
| Office            | Allendale Town Center                       | Allendale            | NJ    | 80,226  | \$53.96    | Addition/Renovation |
|                   | Roanoke Electric Cooperative                | Ahoskie              | NC    | 52,752  | \$307.79   | New                 |
|                   | Regional Aviation & Training Center         | Currituck            | NC    | 39,930  | \$390.44   | New                 |
|                   | Transportation/Warehouse Facility           | Monroe               | GA    | 32,400  | \$271.04   | New                 |
|                   | Collection System Operations Facility       | Walnut Creek         | CA    | 27,179  | \$535.45   | New                 |
|                   | ULTA - (Shell Only)                         | Pensacola            | FL    | 10,850  | \$138.54   | Renovation          |
|                   | Daycare Center                              | Clawson              | MI    | 4,270   | \$219.38   | Adaptive Reuse      |
|                   | Campgrounds Office & Retail                 | Cincinnati           | OH    | 2,300   | \$480.59   | New                 |
| Parking           | Palm Avenue Parking Garage                  | Sarasota             | FL    | 287,040 | \$82.11    | New                 |
|                   | Reynolds Street Parking Deck                | Augusta              | GA    | 214,000 | \$97.67    | New                 |
|                   | Awty Int. School Parking Structure          | Houston              | TX    | 174,582 | \$86.47    | New                 |
| Retail            | SNG Center - Mixed-Use                      | Fargo                | ND    | 143,860 | \$145.31   | New                 |
|                   | Roof & Lifeway/Steinmart Renovation         | Pensacola            | FL    | 88,299  | \$51.04    | Renovation          |
|                   | No Frills Supermarket                       | Omaha                | NE    | 61,000  | \$155.47   | New                 |
|                   | West Oaks Mall Redevelopment                | Houston              | TX    | 49,800  | \$276.68   | Renovation          |
|                   | World of Decor                              | Deerfield Beach      | FL    | 47,500  | \$211.17   | New                 |
|                   | Sarasota Yacht Club                         | Sarasota             | FL    | 41,332  | \$620.42   | New                 |
|                   | Karschs Village Market                      | Barnhart             | MO    | 35,384  | \$121.18   | New                 |
|                   | Fresh Thyme Farmers Market                  | Fishers              | IN    | 28,784  | \$265.71   | New                 |
|                   | Nashville Hangar Inc.                       | Nashville            | TN    | 28,702  | \$278.61   | New                 |
|                   | Party Time Plus                             | Billings             | MT    | 26,000  | \$141.36   | New                 |
|                   | Marshalls - (Shell Only)                    | Pensacola            | FL    | 25,990  | \$67.63    | Renovation          |
|                   | Ed Hicks Mercedes-Benz USA                  | Corpus Christi       | TX    | 25,273  | \$369.71   | New                 |
|                   | Montana Honda & Marine                      | Billings             | MT    | 22,963  | \$160.66   | Addition            |
|                   | Fresh Market - (Shell Only)                 | Pensacola            | FL    | 21,000  | \$116.27   | Renovation          |
|                   | Theatre Exchange Interior Fit Up            | Manitoba             | CA    | 19,344  | \$187.53   | Renovation          |
|                   | DSW Shoes Renovation                        | Pensacola            | FL    | 18,000  | \$130.17   | Renovation          |
|                   | Dormans Lighting & Design                   | Lutherville          | MD    | 15,220  | \$176.46   | Addition            |
|                   | The Groves Exterior Renovation              | Farmington           | MI    | 15,137  | \$99.76    | Renovation          |
|                   | Don Gibson Theatre                          | Shelby               | NC    | 13,386  | \$525.97   | Renovation          |
|                   | Tri Ford Showroom Expansion                 | Highland             | IL    | 12,881  | \$172.02   | Addition/Renovation |
|                   | Fiat of LeHigh Valley                       | Easton               | PA    | 11,905  | \$220.30   | New                 |
|                   | Sicardi Art Gallery                         | Houston              | TX    | 6,175   | \$346.53   | New                 |
|                   | Childrens Mercy Hospital Gift Shop          | Kansas City          | MO    | 5,010   | \$436.75   | Tenant Build-out    |
| Restaurant        | LaMar Cebicheria Peruana Restaurant         | San Francisco        | CA    | 11,000  | \$446.53   | Tenant Build-out    |
|                   | Ulele Restaurant                            | Tampa                | FL    | 8,905   | \$1,082.27 | Adaptive Reuse      |
|                   | Youells Oyster House                        | Allentown            | PA    | 6,107   | \$355.28   | New                 |
|                   | Mellow Mushroom Highlands Shell             | Louisville           | KY    | 5,802   | \$144.01   | New                 |
|                   | Mellow Mushroom Highlands TBO               | Louisville           | KY    | 5,802   | \$238.84   | Tenant Build-out    |
|                   | Mellow Mushroom Pizza                       | Wilder               | KY    | 5,500   | \$341.61   | New                 |
|                   | Liberty Microbrewery                        | Plymouth             | MI    | 3,425   | \$245.77   | Addition            |
|                   | 700 South Deli                              | Linthicum            | MD    | 3,200   | \$302.84   | Tenant Build-out    |
|                   | New York Pizza Department (NYPD)            | Tempe                | AZ    | 2,338   | \$463.32   | Tenant Build-out    |
|                   | Airport Restaurant Build Out                | Eglin Air Force Base | FL    | 2,320   | \$398.86   | Tenant Build-out    |

## SQUARE FOOT TABLES

| PROJECT                 | DESCRIPTION                                 | CITY                | STATE | SIZE     | \$/SF       | NOTES               |
|-------------------------|---|---------------------|-------|----------|-------------|---------------------|
| <i>Civic/Government</i> |   |                     |       |          |             |                     |
| Civic Center            | Lincoln Center                              | Fort Collins        | CO    | 38,160   | \$305.48    | Addition/Renovation |
|                         | Rockport City Services Building             | Rockport            | TX    | 20,062   | \$316.02    | New                 |
|                         | Sinclair Park Community Centre              | Manitoba            | CA    | 17,007   | \$447.45    | Addition/Renovation |
|                         | Mt. Olive City Hall Complex                 | Mount Olive         | IL    | 14,360   | \$171.58    | New                 |
|                         | Teaneck Municipal Complex                   | Teaneck             | NJ    | 12,870   | \$328.81    | Addition/Renovation |
|                         | Cobb Community Center Additions             | Pensacola           | FL    | 5,200    | \$457.62    | Addition/Renovation |
|                         | Newtown Municipal Center                    | Newtown             | OH    | 5,077    | \$238.12    | Adaptive Reuse      |
|                         | Nederland City Hall                         | Nederland           | TX    | 4,983    | \$529.78    | New                 |
| Correctional            | County Sheriffs Office                      | Morgantown          | WV    | 31,645   | \$419.86    | New                 |
|                         | Nederland Public Safety Complex             | Nederland           | TX    | 21,189   | \$306.90    | Adaptive Reuse      |
|                         | Detention Center & Sheriffs Office          | Spencer             | IA    | 16,983   | \$595.18    | New                 |
|                         | Ogle City Sheriff & Coroner Admin           | Oregon              | IL    | 15,377   | \$401.05    | New                 |
|                         | Chautauqua City Jail & Sheriff              | Sedan               | KS    | 12,257   | \$422.96    | New                 |
| Courthouse              | Courthouse HVAC System Replacement          | Gainesville         | FL    | 101,000  | \$61.01     | Renovation          |
|                         | Courthouse Renovation & Restoration         | Springfield         | IL    | 47,720   | \$260.77    | Renovation          |
| Fire Department         | College Station Fire Station #6             | College Station     | TX    | 25,133   | \$494.55    | New                 |
|                         | Mt. Orab Fire Station                       | Village of Mt. Orab | OH    | 18,170   | \$255.18    | New                 |
|                         | Richardson Fire Station No. 4               | Richardson          | TX    | 14,090   | \$580.66    | New                 |
|                         | Willowfork Fire Station No. 2               | Katy                | TX    | 13,358   | \$426.80    | New                 |
|                         | Joint Fire & Rescue Station                 | Newtown             | OH    | 13,125   | \$275.11    | Addition/Renovation |
|                         | Little Miami Fire & Rescue                  | Fairfax             | OH    | 12,316   | \$326.68    | New                 |
|                         | Fire Station No. 11                         | Fort Smith          | AR    | 12,155   | \$494.84    | New                 |
|                         | Pearisburg Fire Station                     | Pearisburg          | VA    | 11,818   | \$318.49    | New                 |
|                         | Ponderosa Fire Station No. 62               | Spring              | TX    | 11,163   | \$427.30    | New                 |
|                         | El Dorado Hills Fire Station 84             | El Dorado Hills     | CA    | 10,869   | \$643.41    | New                 |
|                         | Wayne Fire Department                       | Goshen              | OH    | 10,000   | \$140.05    | New                 |
|                         | Fire Station No. 40                         | Jacksonville        | FL    | 9,703    | \$564.60    | New                 |
|                         | Rosenberg Fire Station No. 3                | Rosenberg           | TX    | 8,479    | \$535.22    | New                 |
|                         | Little Rock Fire Station No. 23             | Little Rock         | AR    | 8,291    | \$688.57    | New                 |
|                         | Cleveland Volunteer Fire Station            | Cleveland           | MS    | 6,910    | \$481.34    | New                 |
| Government              | Council Center For Scouting                 | Fargo               | ND    | 20,466   | \$288.69    | New                 |
|                         | Camp Crook Ranger Station                   | Camp Crook          | SD    | 4,880    | \$713.01    | New                 |
|                         | Beaumont Municipal Tennis Center            | Beaumont            | TX    | 4,460    | \$521.72    | Addition            |
|                         | Florence Transit Hub                        | Florence            | KY    | 3,115    | \$745.23    | New                 |
|                         | Knox Area Rescue Ministries                 | Knoxville           | TN    | 1,762    | \$981.46    | New                 |
|                         | Entrance Station Lake Mead                  | Clark County        | NV    | 480      | \$3,981.92  | New                 |
|                         | Vehicle Charging Stations                   | Denton              | TX    | 6 spaces | \$10,216.45 | New                 |
| Library                 | Dover Public Library                        | Dover               | DE    | 46,424   | \$625.96    | New                 |
|                         | Clinton-Macomb Public Library               | Clinton Township    | MI    | 24,723   | \$182.90    | Adaptive Reuse      |
|                         | Crozet Western Albemarle Library            | Crozet              | VA    | 23,199   | \$508.17    | New                 |
|                         | Upper Tampa Bay Regional Library            | Tampa               | FL    | 13,630   | \$351.71    | Addition/Renovation |
|                         | Palmetto Branch Library                     | Palmetto            | GA    | 11,200   | \$701.90    | New                 |
|                         | Regional Library Expansion                  | Valrico             | FL    | 10,970   | \$431.15    | Addition/Renovation |
| Miscellaneous           | City of Pampa Animal Welfare                | Pampa               | TX    | 13,578   | \$408.45    | New                 |
|                         | Royal Winnipeg Ballet Renovations           | Manitoba            | CA    | 13,237   | \$110.20    | Renovation          |
|                         | Senior Services - Kitchen Facility          | Batavia             | OH    | 6,000    | \$174.43    | New                 |
|                         | Historical Site Locomotive Shelter          | Bismarck            | ND    | 2,100    | \$233.11    | New                 |
| Office                  | Federal Building & Courthouse Modernization | Denver              | CO    | 41,600   | \$505.48    | Renovation          |
|                         | Brazos County Tax Office                    | Bryan               | TX    | 13,143   | \$434.91    | New                 |
|                         | Illinois Water District Office              | Lincoln             | IL    | 8,974    | \$226.35    | New                 |
|                         | Arkansas River Resource Center              | Little Rock         | AR    | 4,926    | \$831.04    | New                 |

## SQUARE FOOT TABLES

| PROJECT             | DESCRIPTION                           | CITY              | STATE | SIZE    | \$/SF      | NOTES               |
|---------------------|---------------------------------------|-------------------|-------|---------|------------|---------------------|
| <i>Educational</i>  |                                       |                   |       |         |            |                     |
| Athletic Facility   | Physical Activity/Sports Science      | Morgantown        | WV    | 117,344 | \$345.09   | New                 |
|                     | Indoor Football Practice Facility     | Clemson           | SC    | 81,992  | \$266.28   | New                 |
|                     | Jesuit College Locker Room Addition   | Dallas            | TX    | 41,673  | \$318.38   | Addition            |
|                     | Multi-Purpose Gymnasium               | Jacksonville      | FL    | 22,844  | \$422.48   | New                 |
| College Classroom   | New Mexico Tech Geology Building      | Socorro           | NM    | 86,813  | \$460.25   | New                 |
|                     | CSU Concourse & Training Room         | Fort Collins      | CO    | 53,050  | \$214.98   | Addition/Renovation |
|                     | Jack Williamson Liberal Arts Center   | Portales          | NM    | 52,480  | \$345.44   | Renovation          |
|                     | UNLV Literature & Law Building        | Las Vegas         | NV    | 44,830  | \$287.21   | Renovation          |
|                     | Southern State Community College      | Mount Orab        | OH    | 43,833  | \$276.33   | New                 |
|                     | SERT Building Iowa Lakes College      | Estherville       | IA    | 42,940  | \$189.39   | Adaptive Reuse      |
| Elementary          | Cibolo Valley Elementary School       | Cibolo            | TX    | 153,130 | \$374.08   | New                 |
|                     | Hill Farm Elementary School           | Bryant            | AR    | 88,800  | \$447.48   | New                 |
|                     | CREC International Magnet School      | South Windsor     | CT    | 63,923  | \$615.04   | New                 |
|                     | Pineville Elementary School           | Pineville         | WV    | 51,650  | \$327.52   | New                 |
|                     | Crownpoint Elementary School          | Crownpoint        | NM    | 48,592  | \$610.25   | New                 |
|                     | Janney Elementary School Addition     | Washington        | DC    | 10,000  | \$901.96   | Addition            |
| High School         | Hmong College Prep Academy            | Saint Paul        | MN    | 154,434 | \$128.07   | Addition/Renovation |
|                     | HFC High School North Building        | Flossmoor         | IL    | 136,555 | \$313.49   | Addition/Renovation |
|                     | Somerset High School                  | Von Ormy          | TX    | 125,800 | \$272.27   | New                 |
|                     | Takoma Education Campus               | Washington        | DC    | 119,000 | \$336.75   | Renovation          |
|                     | High School Addition & Renovation     | Decatur           | GA    | 83,816  | \$390.99   | Addition/Renovation |
|                     | Palmer Catholic Academy               | Ponte Vedra Beach | FL    | 34,209  | \$211.86   | New                 |
|                     | Elmwood High School Addition          | Elmwood Park      | IL    | 31,630  | \$524.58   | Addition/Renovation |
|                     | High School Fine Arts Building        | Heber Springs     | AR    | 30,505  | \$612.68   | New                 |
|                     | Alamo Heights High School Fine Arts   | San Antonio       | TX    | 25,536  | \$492.36   | Addition/Renovation |
|                     | St. Patrick Catholic School           | Jacksonville      | FL    | 23,227  | \$451.91   | New                 |
|                     | Springdale School Alteration          | Corbett           | OR    | 13,680  | \$192.80   | Renovation          |
|                     | Goddard School Addition Renovation    | Anderson Township | OH    | 12,489  | \$128.47   | Addition/Renovation |
|                     | ISD Outdoor Education Center          | Sabine Pass       | TX    | 10,193  | \$488.23   | New                 |
|                     | Indian Mountain School Student Center | Lakeville         | CT    | 9,335   | \$468.71   | Addition            |
|                     | First Impressions Academy             | Fayetteville      | NC    | 7,752   | \$269.68   | New                 |
|                     | High School South Campus Field        | Cincinnati        | OH    | 5,580   | \$361.69   | New                 |
| Middle School       | Timberline Middle School              | Waukeee           | IA    | 187,375 | \$242.75   | New                 |
|                     | Red Bank Middle School                | Chattanooga       | TN    | 158,637 | \$401.94   | New                 |
|                     | Jaime Escalante Middle School         | Pharr             | TX    | 156,538 | \$300.96   | New                 |
|                     | Conservatory Green ECE-8 School       | Denver            | CO    | 113,616 | \$268.40   | New                 |
|                     | Midland School Addition               | Floral            | AR    | 30,150  | \$360.92   | Addition            |
| Laboratory/Research | Science & Technology Building         | Fayetteville      | NC    | 65,048  | \$761.44   | New                 |
|                     | NSU/US Geological Survey              | Davie             | FL    | 24,000  | \$158.22   | Tenant Build-out    |
|                     | Northeast Technology Center           | Pryor             | OK    | 11,909  | \$474.63   | New                 |
|                     | Environmental Education Center        | Bushkill Township | PA    | 9,275   | \$822.91   | New                 |
|                     | Research & Education Center           | Homestead         | FL    | 5,760   | \$1,038.46 | New                 |
|                     | BGSU Student Rec Center               | Bowling Green     | OH    | 179,549 | \$99.74    | Renovation          |
| Multi-Purpose       | Kennedy Center Theatre/Studio Arts    | Clinton           | NY    | 96,100  | \$503.72   | New                 |
|                     | Classroom & Administration Building   | Houston           | TX    | 65,234  | \$325.62   | New                 |
|                     | NM State U Pete Domenici Building     | Las Cruces        | NM    | 53,341  | \$410.43   | Addition/Renovation |
|                     | Widener University Freedom Hall       | Chester           | PA    | 36,700  | \$485.84   | New                 |
|                     | Alumni Hall, Lincoln Park             | Midland           | PA    | 29,027  | \$396.18   | New                 |
|                     | GSU Piedmont North Dining Hall        | Atlanta           | GA    | 12,300  | \$556.25   | Addition            |
|                     | NAU Dining Hall Expansion Phase II    | Flagstaff         | AZ    | 10,096  | \$709.38   | New                 |
|                     | Neighborhood Resource Center          | Richmond          | TX    | 6,935   | \$306.23   | New                 |
|                     | Heber Springs Cafeteria Remodel       | Heber Springs     | AR    | 5,585   | \$345.09   | Renovation          |

## SQUARE FOOT TABLES

| PROJECT       | DESCRIPTION                         | CITY         | STATE | SIZE      | \$/SF    | NOTES               |
|---------------|-------------------------------------|--------------|-------|-----------|----------|---------------------|
| <i>Hotels</i> |                                     |              |       |           |          |                     |
| Hotels        | Omni Dallas Hotel                   | Dallas       | TX    | 1,161,450 | \$626.82 | New                 |
|               | John Ascuagas Nugget Hotel/Casino   | Sparks       | NV    | 449,820   | \$213.84 | Addition            |
|               | Le Centre On Fourth Embassy Suites  | Louisville   | KY    | 408,229   | \$169.23 | Adaptive Reuse      |
|               | Minneapolis Marriott West           | Minneapolis  | MN    | 237,362   | \$244.27 | New                 |
|               | Sheraton Centre Park Hotel          | Dallas       | TX    | 231,031   | \$349.58 | New                 |
|               | AmeriSuites                         | Chicago      | IL    | 191,600   | \$221.04 | Addition/Renovation |
|               | Hampton Inn & Suites Hotel          | Chicago      | IL    | 162,000   | \$241.38 | New                 |
|               | Sheraton Harbor Island Hotel Tower  | San Diego    | CA    | 144,126   | \$294.30 | Addition            |
|               | Compri Hotel                        | Los Angeles  | CA    | 110,150   | \$260.64 | New                 |
|               | Best Western Columbia Hotel         | San Diego    | CA    | 108,040   | \$201.63 | New                 |
|               | Spooky Nook Warehouse Hotel         | Manheim      | PA    | 92,726    | \$192.01 | Adaptive Reuse      |
|               | The Atrium Motel                    | Norfolk      | VA    | 75,889    | \$206.20 | New                 |
|               | Staybridge Hotel At Preston Ridge   | Alpharetta   | GA    | 74,607    | \$264.39 | New                 |
|               | Hampton Inn & Suites                | Allentown    | PA    | 71,686    | \$220.50 | New                 |
|               | Hampton Inn Hotel                   | Carol Stream | IL    | 71,000    | \$270.78 | New                 |
|               | The Inn On Lake Superior            | Duluth       | MN    | 65,345    | \$217.82 | New                 |
|               | The Lancaster Hotel                 | Houston      | TX    | 64,310    | \$455.82 | Renovation          |
|               | Fairfield Inn                       | Helena       | MT    | 31,009    | \$212.86 | New                 |
|               | The Edison Hotel                    | Miami        | FL    | 28,875    | \$176.46 | Renovation          |
|               | Western Executive Inn               | Billings     | MT    | 21,984    | \$157.55 | New                 |
|               | Country Hearth Inn                  | Preston      | MN    | 21,028    | \$184.99 | New                 |
|               | Lawrence Welk Resort Hotel          | Escondido    | CA    | 19,874    | \$211.00 | Addition            |
|               | Hanalei Hotel Conference Center     | San Diego    | CA    | 8,587     | \$335.06 | Addition            |
|               | Summit At Vail, Multi-Purpose Lodge | Vail         | CO    | 6,000     | \$400.03 | New                 |

## SQUARE FOOT TABLES

| PROJECT           | DESCRIPTION                              | CITY                    | STATE | SIZE    | \$/SF      | NOTES               |
|-------------------|--|-------------------------|-------|---------|------------|---------------------|
| <i>Industrial</i> |  |                         |       |         |            |                     |
| Manufacturing     | Brentwood Industries Manufacturing       | Reading                 | PA    | 205,000 | \$62.12    | New                 |
|                   | Lee Steel Corporate Plant                | Romulus                 | MI    | 200,625 | \$135.10   | New                 |
|                   | Siemens Westinghouse Fuel Cell Facility  | Munhall                 | PA    | 191,090 | \$147.12   | New                 |
|                   | Manufacturing Plant & Headquarters       | Lansing                 | MI    | 188,975 | \$142.64   | Addition            |
|                   | Concepts Direct                          | Longmont                | CO    | 117,900 | \$173.97   | New                 |
|                   | Nypyro Inc.                              | Clinton                 | MA    | 102,475 | \$178.47   | Addition            |
|                   | SWF Industrial                           | Wrightsville            | PA    | 76,218  | \$109.96   | New                 |
|                   | Headquarters & Manufacturing Facility    | Lower Nazareth Township | PA    | 62,980  | \$52.66    | Renovation          |
|                   | Aerzen USA (Office/Manufacturing)        | Coatesville             | PA    | 40,000  | \$268.73   | New                 |
|                   | Lee Steel Corporate Expansion            | Wyoming                 | MI    | 34,821  | \$114.17   | New                 |
|                   | Prescott Aerospace                       | Prescott                | AZ    | 31,400  | \$164.48   | New                 |
|                   | Battery Innovation Center                | Newberry                | IN    | 30,080  | \$641.71   | New                 |
|                   | American Steel                           | Billings                | MT    | 25,957  | \$119.29   | New                 |
|                   | Phillip S. Luttazi Town Garage           | Dover                   | MA    | 21,913  | \$205.26   | New                 |
|                   | ITT Flygt - Industrial Facility          | Milford                 | OH    | 16,991  | \$194.64   | New                 |
|                   | Broadmoor Golf Maintenance               | Colorado Springs        | CO    | 16,064  | \$352.84   | New                 |
|                   | Cooper B-Line Expansion                  | Highland                | IL    | 15,290  | \$249.29   | Addition/Renovation |
|                   | Robberson Ford Collision Center          | Bend                    | OR    | 15,089  | \$204.63   | New                 |
|                   | Brown Industrial Building                | Truckee                 | CA    | 13,345  | \$202.16   | New                 |
|                   | CTC Vehicle Maintenance Shops            | Killeen                 | TX    | 11,250  | \$191.15   | New                 |
|                   | Storage & Shop Facility                  | Billings                | MT    | 8,763   | \$131.91   | New                 |
|                   | Central Plant with Equipment Bay         | Mesa                    | AZ    | 8,500   | \$1,360.10 | New                 |
| Office            | Woodlands Business Center                | Richmond                | VA    | 48,000  | \$118.16   | New                 |
|                   | Wiregrass Research Center                | Headland                | AL    | 9,740   | \$364.92   | New                 |
| Office/Warehouse  | American Superconductor                  | Devens                  | MA    | 354,000 | \$251.11   | New                 |
|                   | Castcon Stone Inc.                       | Saxonburg               | PA    | 47,000  | \$168.19   | New                 |
|                   | Minnesota DNR Headquarters               | Tower                   | MN    | 37,802  | \$249.08   | New                 |
|                   | Office & Warehouse                       | Miami                   | FL    | 14,815  | \$204.06   | New                 |
|                   | DOT Office & Maintenance Building        | Hillsboro               | OH    | 10,876  | \$359.97   | New                 |
| Warehouse         | Distribution Center                      | Windsor                 | CT    | 303,750 | \$51.20    | New                 |
|                   | Zany Brainy Distribution Center          | Bridgeport              | NJ    | 250,000 | \$61.14    | New                 |
|                   | Galderma - Warehouse                     | Fort Worth              | TX    | 70,000  | \$131.72   | New                 |
|                   | Manzana Products Warehouse               | Sebastopol              | CA    | 41,395  | \$98.10    | New                 |
|                   | Tactical Equip Maintenance Facility      | Fort Campbell           | KY    | 35,290  | \$353.96   | New                 |
|                   | Sonoma Wine Company Canopy               | Graton                  | CA    | 26,000  | \$83.28    | New                 |
|                   | Administration/Chemical Storage Building | Killeen                 | TX    | 23,837  | \$503.51   | New                 |
|                   | DOT Truck Storage Building               | Hillsboro               | OH    | 18,400  | \$137.37   | New                 |
|                   | F.I. Storage Facility                    | Kentwood                | MI    | 13,125  | \$101.01   | New                 |
|                   | 50 Columbia Drive Warehouse              | Pooler                  | GA    | 10,000  | \$126.78   | New                 |
|                   | DOT Salt Storage Building                | Hillsboro               | OH    | 9,100   | \$138.50   | New                 |
|                   | Organizational Storage Facility          | Fort Campbell           | KY    | 8,040   | \$210.14   | New                 |
|                   | Dwan Maintenance Building                | Bloomington             | MN    | 7,240   | \$283.80   | Addition/Renovation |
|                   | Maintenance/Storage Building             | Batavia                 | OH    | 7,200   | \$122.07   | New                 |
|                   | DOT Cold Storage Building                | Hillsboro               | OH    | 5,040   | \$147.67   | New                 |
|                   | Job Corp Warehouse                       | Hartford                | CT    | 3,800   | \$700.13   | New                 |
|                   | DOT Materials Storage Building           | Hillsboro               | OH    | 1,920   | \$165.11   | New                 |
|                   | Aerial Vehicle Storage                   | Fort Campbell           | KY    | 1,800   | \$315.54   | New                 |
|                   | Petro, Oil, Lubricant Storage            | Fort Campbell           | KY    | 640     | \$441.09   | New                 |
|                   | Hazardous Waste Storage Building         | Fort Campbell           | KY    | 640     | \$471.40   | New                 |

## SQUARE FOOT TABLES

| PROJECT            | DESCRIPTION                          | CITY                   | STATE | SIZE    | \$/SF    | NOTES               |
|--------------------|--------------------------------------|------------------------|-------|---------|----------|---------------------|
| <i>Medical</i>     |                                      |                        |       |         |          |                     |
| Clinic             | HealthCare Emergency/Trauma Center   | Topeka                 | KS    | 115,000 | \$594.93 | Addition            |
|                    | Sadler Clinic (Shell Only)           | Conroe                 | TX    | 61,599  | \$185.21 | New                 |
|                    | Pinellas County Health Department    | Largo                  | FL    | 54,965  | \$385.94 | Retrofit            |
|                    | Sanford Moorhead Clinic              | Moorhead               | MN    | 49,250  | \$378.21 | New                 |
|                    | County Health Department             | Port Charlotte         | FL    | 47,564  | \$428.84 | New                 |
|                    | Sadler Clinic                        | Conroe                 | TX    | 41,066  | \$175.46 | Tenant Build-out    |
|                    | PineMed Medical Plaza                | The Woodlands          | TX    | 30,398  | \$195.67 | New                 |
|                    | Outpatient Specialty Clinic          | Vancouver              | WA    | 20,139  | \$486.84 | New                 |
|                    | Ambulatory Surgery Center            | Stroudsburg            | PA    | 19,929  | \$522.52 | Addition/Renovation |
|                    | Thundermist Health Center            | West Warwick           | RI    | 18,217  | \$301.27 | Adaptive Reuse      |
|                    | E Texas Community Health Services    | Nacogdoches            | TX    | 12,500  | \$142.67 | Retrofit            |
|                    | North Mobile Health Center           | Mt. Vernon             | AL    | 6,765   | \$425.63 | New                 |
| Dental Office      | Construct Dental Clinic Roseburg     | Roseburg               | OR    | 7,750   | \$740.64 | New                 |
|                    | Kitchens Pediatric Dental Clinic     | Little Rock            | AR    | 6,068   | \$445.84 | New                 |
|                    | Dental Office Shell & Parking        | Olympia                | WA    | 5,302   | \$252.97 | New                 |
|                    | Evans Family Dental                  | Austin                 | TX    | 2,354   | \$310.03 | Tenant Build-out    |
| Hospital           | Union Hospital Addition              | Terre Haute            | IN    | 492,348 | \$465.96 | Addition            |
|                    | Regional Medical Center              | Lafayette              | LA    | 410,273 | \$779.86 | New                 |
|                    | Houston Medical Pavilion             | Warner Robins          | GA    | 180,000 | \$91.86  | Adaptive Reuse      |
|                    | Langley AFB Hospital Renovation      | Langley Air Force Base | VA    | 160,000 | \$778.59 | Renovation          |
|                    | Cass Regional Medical Center         | Harrisonville          | MO    | 137,524 | \$547.47 | New                 |
|                    | Texas Spine & Joint Hospital         | Tyler                  | TX    | 115,789 | \$362.60 | Addition/Renovation |
|                    | Oktibbeha County Hospital Expansion  | Starkville             | MS    | 87,116  | \$475.13 | New                 |
|                    | Childrens Mercy Hospital             | Independence           | MO    | 54,682  | \$457.78 | New                 |
|                    | Oktibbeha County Hospital Renovation | Starkville             | MS    | 30,263  | \$237.15 | Renovation          |
|                    | EI Rio Community Health Center       | Tucson                 | AZ    | 26,998  | \$349.64 | New                 |
|                    | Pondella Public Health Center        | Fort Myers             | FL    | 26,400  | \$435.51 | Renovation          |
|                    | Topeka Ear Nose & Throat             | Topeka                 | KS    | 24,073  | \$451.54 | New                 |
|                    | Rapha Primary Care                   | Fayetteville           | NC    | 19,907  | \$193.85 | Renovation          |
|                    | UNM Hospitals North Valley Center    | Albuquerque            | NM    | 16,500  | \$456.55 | New                 |
|                    | EI Rio Community Health Center       | Tucson                 | AZ    | 14,000  | \$396.95 | New                 |
|                    | VA Medical Center Area G Renovation  | Houston                | TX    | 12,000  | \$483.01 | Renovation          |
|                    | Surgical Suite Expansion             | Dobbs Ferry            | NY    | 9,000   | \$551.31 | Renovation          |
|                    | Legacy Emergency Room                | Allen                  | TX    | 8,432   | \$914.38 | New                 |
|                    | Oral & Maxillofacial Surgery Center  | Fayetteville           | NC    | 2,214   | \$778.03 | Renovation          |
| Nursing Home/Rehab | Senior Living Community              | Hoschton               | GA    | 56,251  | \$202.76 | New                 |
|                    | Retirement Community                 | Carlisle               | PA    | 47,075  | \$228.32 | Addition/Renovation |
|                    | Assisted Living & Memory Center      | Dacula                 | GA    | 38,221  | \$235.84 | New                 |
|                    | Homestead Village Nursing Care       | Lancaster              | PA    | 28,149  | \$154.42 | Renovation          |
|                    | Jewish Services For The Aging        | Tucson                 | AZ    | 24,993  | \$287.47 | New                 |
|                    | Short-Term Rehabilitation            | Olathe                 | KS    | 13,800  | \$386.72 | Addition            |
|                    | St. Katharine Retirement Center      | EI Reno                | OK    | 12,000  | \$457.05 | New/Addition        |
| Office             | Orthopedic Hospital/Medical Office   | Allentown              | PA    | 79,807  | \$289.68 | Renovation          |
|                    | Tomball Medical Office Building      | Tomball                | TX    | 54,380  | \$196.97 | New                 |
|                    | Olathe Health Education Center       | Olathe                 | KS    | 50,258  | \$440.46 | New                 |
|                    | Home & Hospice Care                  | Providence             | RI    | 47,734  | \$277.84 | Renovation          |
|                    | NE Georgia Medical Plaza 400         | Dawsonville            | GA    | 26,997  | \$387.65 | Adaptive Reuse      |
|                    | VA Medical Center/Pharmacy           | Waco                   | TX    | 19,171  | \$225.70 | Renovation          |
|                    | Cancer Specialists of North Florida  | Jacksonville           | FL    | 18,654  | \$411.72 | New                 |
|                    | MJHS Hospice Residence               | N.Y.C.                 | NY    | 12,500  | \$213.05 | Renovation          |
|                    | Medical Office Building              | Pelham                 | NH    | 8,399   | \$383.41 | New                 |
|                    | Podiatry Group                       | Marietta               | GA    | 6,768   | \$77.97  | Renovation          |
|                    | Marietta Podiatry Group              | Marietta               | GA    | 4,400   | \$356.08 | New                 |

## SQUARE FOOT TABLES

| PROJECT        | DESCRIPTION                              | CITY                    | STATE | SIZE    | \$/SF    | NOTES               |
|----------------|--|-------------------------|-------|---------|----------|---------------------|
| <i>Office</i>  |  |                         |       |         |          |                     |
| Office         | Restaurant Support Center                | Lenexa                  | KS    | 186,465 | \$376.99 | New                 |
|                | 5000 NASA Boulevard                      | Fairmont                | WY    | 132,000 | \$401.98 | New                 |
|                | Rockford Construction Office             | Grand Rapids            | MI    | 71,144  | \$160.62 | Adaptive Reuse      |
|                | Woodlawn Office Bldg. (Shell Only)       | Louisville              | KY    | 60,000  | \$203.19 | New                 |
|                | Rosecrance Ware Center                   | Rockford                | IL    | 44,800  | \$200.53 | Adaptive Reuse      |
|                | Professional Center (Shell)              | White Marsh             | MD    | 43,025  | \$255.62 | New                 |
|                | Swan Skyline Office Plaza (Shell)        | Tucson                  | AZ    | 37,200  | \$172.41 | New                 |
|                | Infinite Energy Phase IV                 | Gainesville             | FL    | 36,500  | \$451.92 | New                 |
|                | Freedom Plaza Building                   | Cookeville              | TN    | 28,488  | \$353.33 | New                 |
|                | Landmark Professional Building           | Clayton                 | NC    | 27,231  | \$335.03 | New                 |
|                | FC Gulf Freeway Building (Shell)         | Houston                 | TX    | 24,084  | \$381.40 | New                 |
|                | White Street Building (Shell Only)       | Marietta                | GA    | 23,809  | \$311.25 | New                 |
|                | Columbia Shores Office Condo             | Vancouver               | WA    | 22,574  | \$258.31 | New                 |
|                | Office & Design Studio                   | Chicago                 | IL    | 20,244  | \$181.36 | Tenant Build-out    |
|                | Pinnacle III Office Tenant Finish        | Leawood                 | KS    | 18,409  | \$86.34  | Tenant Build-out    |
|                | Commerce Park (Shell)                    | Suwanee                 | GA    | 17,097  | \$177.07 | New                 |
|                | PCWA Business Center Interior            | Auburn                  | CA    | 12,085  | \$89.82  | Renovation          |
|                | Tenth Avenue Holdings Offices            | N.Y.C.                  | NY    | 11,000  | \$126.06 | Tenant Build-out    |
|                | Office Park - Building A (Shell)         | Fort Collins            | CO    | 10,000  | \$387.15 | New                 |
|                | Longshoremens Welfare Fund Building      | Savannah                | GA    | 8,160   | \$568.42 | New                 |
|                | Garry Street Office Building             | Manitoba                | CA    | 7,506   | \$226.80 | Renovation          |
|                | Reserve Advisors                         | Milwaukee               | WI    | 5,300   | \$72.71  | Tenant Build-out    |
|                | 510 Armory Street Office                 | Boston                  | MA    | 5,100   | \$139.22 | Renovation          |
|                | Offices of Bonsall Shafferman            | Bethlehem               | PA    | 4,950   | \$102.97 | Tenant Build-out    |
|                | FCT Capital Partners                     | Houston                 | TX    | 4,100   | \$120.47 | Tenant Build-out    |
|                | Martin Rogers Associates Office          | Wilkes-Barre            | PA    | 4,000   | \$192.76 | Addition/Renovation |
|                | Cowan & Kohne Financial                  | Suwanee                 | GA    | 3,713   | \$181.51 | Tenant Build-out    |
|                | 212 Archer Street Office                 | Bel Air                 | MD    | 3,600   | \$256.77 | New                 |
|                | Utilities Analyses Inc.                  | Suwanee                 | GA    | 3,513   | \$168.38 | Tenant Build-out    |
|                | Visual Lizard Interior Fit-Up            | Manitoba                | CA    | 2,430   | \$135.09 | Tenant Build-out    |
|                | Richardson State Farm                    | Houston                 | TX    | 2,200   | \$163.34 | Tenant Build-out    |
| Mixed-Use      | Office/Retail/Parking Mixed-Use          | Jackson                 | MS    | 228,407 | \$370.62 | New                 |
|                | Korte & Luitjohan Office & Shop          | Highland                | IL    | 26,000  | \$178.09 | New                 |
| Medical Office | Evanston Medical Office Building         | Evanston                | WY    | 9,157   | \$408.20 | New                 |
|                | Advanced Medical Group                   | Suwanee                 | GA    | 4,433   | \$173.33 | Tenant Build-out    |
|                | Bothell Dental Office Build Out          | Bothell                 | WA    | 2,203   | \$287.82 | Tenant Build-out    |
| Headquarters   | CONSUL Energy Corporation Headquarters   | Southpointe, Canonsburg | PA    | 317,500 | \$343.77 | New                 |
|                | Fairmont Supply Corporate Headquarters   | Southpointe, Canonsburg | PA    | 75,255  | \$227.18 | New                 |
|                | Practice Velocity Corporate Headquarters | Machesney Park          | IL    | 64,318  | \$142.75 | Adaptive Reuse      |
|                | Enterprise Integration Headquarters      | Jacksonville            | FL    | 57,723  | \$88.81  | Renovation          |
|                | Linear Technology                        | Cary                    | NC    | 20,000  | \$461.35 | New                 |
|                | PIPS Technology Inc.                     | Knoxville               | TN    | 19,884  | \$366.72 | New                 |
|                | Lee Steel Corporate Offices              | Novi                    | MI    | 15,781  | \$243.75 | Renovation          |
|                | Weaver Cooke Headquarters                | Goldsboro               | NC    | 15,464  | \$438.59 | New                 |
|                | In Capital Holdings                      | Boca Raton              | FL    | 13,000  | \$246.49 | Tenant Build-out    |
|                | ACCION Regional Headquarters             | Albuquerque             | NM    | 7,580   | \$471.86 | New                 |
| Civic Office   | Miss Department of Environmental Quality | Jackson                 | MS    | 121,170 | \$137.46 | Renovation          |
|                | County Central Office Complex            | Pensacola               | FL    | 74,630  | \$416.60 | New                 |
|                | State of WV Office Building              | Fairmont                | WV    | 70,442  | \$371.19 | New                 |
|                | JAX Chamber of Commerce Renovation       | Jacksonville            | FL    | 20,110  | \$306.46 | Renovation          |

## SQUARE FOOT TABLES

| PROJECT             | DESCRIPTION                            | CITY              | STATE | SIZE    | \$/SF      | NOTES               |
|---------------------|--|-------------------|-------|---------|------------|---------------------|
| <i>Recreational</i> |  |                   |       |         |            |                     |
| Educational         | The Pavilion at Ole Miss               | Oxford            | MS    | 235,301 | \$652.46   | New                 |
|                     | University Laker Turf Building         | Allendale         | MI    | 137,662 | \$216.33   | New                 |
|                     | CSU Recreation Center                  | Chico             | CA    | 110,245 | \$673.18   | New                 |
|                     | Intramural Recreation Penn State       | State College     | PA    | 59,303  | \$597.16   | Addition/Renovation |
|                     | Center For Women's Athletics           | Fayetteville      | AR    | 39,183  | \$531.74   | New                 |
|                     | Pickens Recreation Center              | Pickens           | SC    | 20,400  | \$265.45   | New                 |
|                     | High School Concessions & Press Box    | Loganville        | GA    | 1,506   | \$682.00   | New                 |
| Health Club         | Brooklyn Yard Fitness Club (Shell)     | Portland          | OR    | 63,987  | \$167.12   | New                 |
|                     | Title Boxing Club                      | Cedar Hill        | TX    | 4,330   | \$103.59   | Tenant Build-out    |
| Recreational        | Community Recreation Center            | Williston         | ND    | 223,787 | \$649.50   | New                 |
|                     | Spirit Lake Casino & Resort            | St. Michael       | ND    | 112,277 | \$88.10    | Renovation          |
|                     | Phipps Tropical Forest                 | Pittsburgh        | PA    | 80,000  | \$474.04   | New                 |
|                     | Family Recreation Center               | Colonie           | NY    | 70,256  | \$346.46   | New                 |
|                     | Youth Activity Center                  | Joplin            | MO    | 62,056  | \$146.72   | New                 |
|                     | New Holland Recreational Center        | New Holland       | PA    | 51,256  | \$191.31   | Renovation          |
|                     | Community College Recreation Center    | Cedar Rapids      | IA    | 43,500  | \$241.41   | New                 |
|                     | Anderson Recreation Center             | Anderson          | SC    | 34,282  | \$541.30   | New                 |
|                     | East Park Community Center             | Nashville         | TN    | 33,000  | \$434.20   | New                 |
|                     | Church Family Life Center              | Clemson           | SC    | 31,509  | \$468.55   | New/Renovation      |
|                     | C.K. Ray Recreation Center             | Conroe            | TX    | 30,380  | \$221.14   | Addition/Renovation |
|                     | St. Raphael Athletic & Wellness Center | Pawtucket         | RI    | 30,268  | \$382.85   | New                 |
|                     | The Forge For Families                 | Houston           | TX    | 29,860  | \$360.97   | New                 |
|                     | Christian Life Center                  | Birmingham        | MI    | 26,966  | \$494.06   | Addition            |
|                     | Children's Sports Center               | Woodbury          | MN    | 26,219  | \$176.69   | New                 |
|                     | Trinity River Audubon Center           | Dallas            | TX    | 20,791  | \$1,362.39 | New                 |
|                     | Baptist Church Activity Center         | Indianapolis      | IN    | 16,636  | \$218.44   | New                 |
|                     | Boys & Girls Club Syracuse             | Syracuse          | NY    | 12,107  | \$266.98   | Addition            |
|                     | Job Corp Recreational Building         | Hartford          | CT    | 11,300  | \$299.59   | New                 |
|                     | Presbyterian Family Life Center        | Strawberry Plains | TN    | 11,236  | \$243.43   | New                 |
|                     | McDaniel Yacht Basin                   | North East        | MD    | 7,620   | \$274.16   | New                 |
|                     | Bicentennial Park                      | Cincinnati        | OH    | 4,050   | \$1,284.29 | New                 |
|                     | Bahosky Softball Complex               | Bronx             | NY    | 3,800   | \$694.53   | New                 |
| Swimming Center     | Resort & Indoor Waterpark              | Cortland          | NY    | 175,060 | \$388.02   | New                 |
|                     | The Aquatic Center                     | Tunica            | MS    | 45,008  | \$462.33   | New                 |
|                     | Spirit Lake Phase 4                    | St. Michael       | ND    | 26,630  | \$528.58   | Addition/Renovation |
|                     | Family Aquatic Center                  | Beachwood         | OH    | 7,500   | \$1,717.79 | New                 |
|                     | Community Aquatic Park & Center        | Billings          | MT    | 6,730   | \$1,080.36 | New                 |
| Theater             | Cinema & IMAX Theatre                  | Lansing           | MI    | 13,750  | \$326.57   | New                 |
|                     | Academy Theater                        | N.Y.C.            | NY    | 4,593   | \$331.78   | Renovation          |
| YMCA                | David D. Hunting YMCA                  | Grand Rapids      | MI    | 162,966 | \$297.60   | New                 |
|                     | YMCA Recreational Center               | Ann Arbor         | MI    | 83,377  | \$405.07   | New                 |
|                     | Floyd Co. YMCA & Aquatic Center        | New Albany        | IN    | 82,324  | \$493.21   | New                 |
|                     | Wade Walker Park Family YMCA           | Stone Mountain    | GA    | 59,134  | \$514.78   | New                 |
|                     | Alexandria YMCA                        | Alexandria        | MN    | 55,150  | \$249.08   | New                 |
|                     | Greater Nashua YMCA                    | Nashua            | NH    | 49,980  | \$306.56   | New                 |
|                     | Lancaster YMCA Harrisburg Ave.         | Lancaster         | PA    | 42,502  | \$521.35   | New                 |
|                     | Greater Kingsport Family YMCA          | Kingsport         | TN    | 40,007  | \$372.39   | New                 |
|                     | Eastside YMCA                          | Knoxville         | TN    | 39,984  | \$370.00   | New                 |
|                     | Highland County Family YMCA            | Hillsboro         | OH    | 33,228  | \$220.47   | New                 |
|                     | Houston Texans YMCA                    | Houston           | TX    | 31,628  | \$523.13   | New                 |
|                     | Cypress Creek YMCA                     | Houston           | TX    | 25,699  | \$220.65   | Addition/Renovation |

## SQUARE FOOT TABLES

| PROJECT          | DESCRIPTION                           | CITY           | STATE | SIZE    | \$/SF    | NOTES               |
|------------------|---------------------------------------|----------------|-------|---------|----------|---------------------|
| <i>Religious</i> |                                       |                |       |         |          |                     |
| Church           | First United Methodist Church         | Orlando        | FL    | 121,536 | \$411.81 | New                 |
|                  | Beautiful Savior Lutheran Church      | Plymouth       | MN    | 69,700  | \$168.42 | New                 |
|                  | Solid Rock Baptist Church             | Berlin         | NJ    | 58,359  | \$152.29 | New                 |
|                  | North Side Baptist Church             | Greenville     | SC    | 48,087  | \$388.90 | New                 |
|                  | St. Martha Catholic Church            | Porter         | TX    | 46,748  | \$768.40 | New                 |
|                  | Gracepoint Gospel Fellowship Church   | Ramapo         | NY    | 46,595  | \$285.81 | New                 |
|                  | Good Shepherd Methodist Church        | Odessa         | TX    | 41,003  | \$455.21 | New                 |
|                  | Davisville Church Addition            | Southampton    | PA    | 36,090  | \$269.13 | Addition            |
|                  | Immaculate Catholic Church            | Columbia       | IL    | 34,000  | \$376.33 | New                 |
|                  | Keystone Community Church             | Ada            | MI    | 29,775  | \$221.59 | New                 |
|                  | Grace Church                          | Des Moines     | IA    | 29,296  | \$300.64 | New                 |
|                  | Good Shepherd Church                  | Naperville     | IL    | 27,869  | \$297.80 | Addition/Renovation |
|                  | River Hills Baptist Church            | Corpus Christi | TX    | 27,404  | \$450.86 | New                 |
|                  | Good Shepherd Catholic Church         | Smithville     | MO    | 24,810  | \$309.73 | New                 |
|                  | Prince of Peace Catholic Church       | Chesapeake     | VA    | 24,740  | \$388.08 | Addition/Renovation |
|                  | Sanctuary Addition Christian Church   | Oklahoma City  | OK    | 23,820  | \$232.62 | Addition            |
|                  | St. Sylvester Catholic Church         | Gulf Breeze    | FL    | 22,000  | \$609.95 | New                 |
|                  | St. Peters Catholic Sanctuary         | Fallbrook      | CA    | 20,764  | \$672.08 | New                 |
|                  | Notre Dame Catholic Church            | Houston        | TX    | 20,280  | \$620.01 | New                 |
|                  | St Eugene Catholic Church             | Oklahoma City  | OK    | 20,000  | \$679.57 | New                 |
|                  | Chapin Presbyterian Church            | Chapin         | SC    | 19,900  | \$495.50 | New                 |
|                  | St. Michaels Catholic Church          | Glen Allen     | VA    | 19,770  | \$531.58 | New                 |
|                  | Shrine of Holy Spirit                 | Branson        | MO    | 19,200  | \$505.88 | New                 |
|                  | Wildwood United Methodist Church      | Magnolia       | TX    | 19,000  | \$361.46 | New                 |
|                  | Episcopal Church of the Nativity      | Scottsdale     | AZ    | 18,288  | \$180.78 | Adaptive Reuse      |
|                  | Hardin Church of Christ               | Knoxville      | TN    | 17,149  | \$181.73 | New                 |
|                  | First United Methodist Church         | Crossville     | TN    | 15,816  | \$711.32 | New                 |
|                  | Good Shepherd Episcopal Church        | Silver Spring  | MD    | 15,200  | \$424.43 | Addition/Renovation |
|                  | Ascension Catholic Church             | LaPlace        | LA    | 15,057  | \$560.28 | New                 |
|                  | St. Patrick Catholic Church           | Jacksonville   | FL    | 14,139  | \$400.47 | New                 |
|                  | Our Lady of Guadalupe Catholic Church | Rosenberg      | TX    | 12,910  | \$617.70 | New                 |
|                  | St. Timothy's Episcopal Church        | Creve Coeur    | MO    | 12,682  | \$307.94 | New/Renovation      |
|                  | St. Paul Lutheran Church              | Pomaria        | SC    | 12,072  | \$504.19 | New                 |
|                  | Covenant Baptist Church               | Florida City   | FL    | 10,725  | \$376.20 | New                 |
|                  | First United Methodist Church         | Katy           | TX    | 10,503  | \$456.92 | Addition/Renovation |
|                  | Lake Ann United Methodist Church      | Lake Ann       | MI    | 9,975   | \$315.72 | New                 |
|                  | United Methodist Church               | Odenton        | MD    | 8,783   | \$493.33 | New                 |
|                  | Kent R. Hance Chapel at Texas Tech    | Lubbock        | TX    | 6,530   | \$895.48 | New                 |
|                  | Haven for Hope Chapel                 | San Antonio    | TX    | 2,232   | \$672.62 | New                 |
| Multi-Purpose    | Baptist Church Multi-Purpose Bldg     | Maryville      | TN    | 41,656  | \$167.83 | New                 |
|                  | Good Shepherd Parish Center           | San Diego      | CA    | 28,752  | \$231.47 | New                 |
|                  | Christian Life Center                 | Kansas City    | MO    | 26,320  | \$449.57 | New                 |
|                  | Baptist Church Outreach Center        | Fort Smith     | AR    | 25,000  | \$394.74 | New                 |
|                  | St Rafael Administration Building     | San Diego      | CA    | 24,276  | \$249.30 | New                 |
|                  | Catholic Church Social Hall           | Chula Vista    | CA    | 23,596  | \$414.80 | New                 |
|                  | United Methodist Church               | West Chester   | PA    | 11,935  | \$362.73 | Addition/Renovation |
|                  | Student Ministry Center               | Knoxville      | TN    | 11,700  | \$449.39 | New                 |
|                  | Catholic Pastoral Ministries Center   | Spring         | TX    | 10,135  | \$576.95 | New                 |
|                  | Christian Renewal Center              | Dickinson      | TX    | 8,500   | \$317.19 | New                 |
|                  | Holy Family St Lawrence Parish Center | Essex Junction | VT    | 7,900   | \$332.65 | New                 |
|                  | Presbyterian Church Addition          | Gap            | PA    | 7,414   | \$381.85 | Addition/Renovation |
|                  | New Hope Church Addition/Alteration   | Saint Louis    | MO    | 5,564   | \$292.38 | Renovation          |

## SQUARE FOOT TABLES

| PROJECT            | DESCRIPTION                         | CITY               | STATE | SIZE    | \$/SF      | NOTES          |
|--------------------|-------------------------------------|--------------------|-------|---------|------------|----------------|
| <i>Residential</i> |                                     |                    |       |         |            |                |
| Apartment          | Solace Apartments                   | Virginia Beach     | VA    | 331,681 | \$148.00   | New            |
|                    | 1221 Broadway Lofts                 | San Antonio        | TX    | 205,137 | \$209.02   | Adaptive Reuse |
|                    | Sustainable Fellwood Phase I        | Savannah           | GA    | 124,037 | \$195.54   | New            |
|                    | Kelly Cullen Community              | San Francisco      | CA    | 98,385  | \$810.22   | Adaptive Reuse |
|                    | Bachelors Enlisted Quarters         | Camp Williams      | UT    | 76,253  | \$368.40   | New            |
|                    | Mockingbird Terrace Homes           | Louisville         | KY    | 71,110  | \$234.14   | New            |
|                    | Homeless Men's Residential          | San Antonio        | TX    | 67,908  | \$388.11   | New            |
|                    | Homeless Women's/Family Residence   | San Antonio        | TX    | 60,182  | \$373.99   | New            |
|                    | Magnolia Place                      | Lancaster          | PA    | 39,714  | \$235.86   | New            |
|                    | Elkins First Ward Apartments        | Elkins             | WV    | 27,000  | \$169.31   | Adaptive Reuse |
|                    | Young Burlington Apartments         | Los Angeles        | CA    | 24,399  | \$303.44   | New            |
|                    | The Lofts at 300 Bowman             | Dickson City       | PA    | 23,900  | \$126.48   | Adaptive Reuse |
|                    | Peaceful Paths Emergency Svc Campus | Gainesville        | FL    | 22,535  | \$217.13   | New            |
|                    | Wylie House - Ronald McDonald House | Kansas City        | MO    | 21,885  | \$275.40   | New            |
|                    | Dogwood Manor Apartments            | Oak Ridge          | TN    | 19,975  | \$249.77   | New            |
|                    | Anderson Village Multi-Family       | Austin             | TX    | 12,500  | \$416.99   | New            |
|                    | Salvation Army Sally's House        | Houston            | TX    | 7,812   | \$363.89   | Addition       |
|                    | Stones River Apartment Complex      | Murfreesboro       | TN    | 7,548   | \$336.51   | Addition       |
|                    | Sunshine Park Apartments Renovation | Gainesville        | FL    | 2,252   | \$178.36   | Renovation     |
| Assisted Living    | Kenmore Apartments Senior Housing   | Chicago            | IL    | 90,528  | \$312.01   | Renovation     |
|                    | Country Meadows Retirement          | Allentown          | PA    | 53,237  | \$238.73   | New            |
|                    | Creekside Village Assisted Living   | Harrisburg         | PA    | 16,150  | \$207.48   | New            |
|                    | Landis Homes Retirement Community   | Lititz             | PA    | 14,255  | \$98.06    | Renovation     |
| Dormitory          | NSU Graduate Student Housing        | Davie              | FL    | 203,500 | \$320.55   | Renovation     |
|                    | Rider University Student Housing    | Lawrenceville      | NJ    | 50,500  | \$344.79   | New            |
|                    | JWU Biscayne Commons Dormitory      | Miami              | FL    | 40,048  | \$378.20   | New            |
|                    | College Residence Dorm              | Bloomfield         | NJ    | 25,980  | \$465.70   | Renovation     |
| Single-Family Home | Island Residence                    | Grosse Ile         | MI    | 19,237  | \$1,024.84 | New            |
|                    | MG Residence Restoration            | Williamston        | MI    | 9,768   | \$110.03   | Renovation     |
|                    | Concepcion House                    | Coral Gables       | FL    | 6,067   | \$538.03   | New            |
|                    | Leal House                          | Miami              | FL    | 5,935   | \$377.79   | New/Renovation |
|                    | Monserrate Street Residence         | Coral Gables       | FL    | 5,885   | \$667.37   | New            |
|                    | Private Residence                   | Newburgh           | IN    | 5,566   | \$536.03   | New            |
|                    | Private Residence                   | Austin             | MN    | 5,489   | \$232.38   | New            |
|                    | Private Residence                   | Lake Wallenpaupack | PA    | 4,845   | \$485.57   | New            |
|                    | Island in the Grove                 | Boca Raton         | FL    | 4,701   | \$552.28   | New            |
|                    | Private Residence                   | Benson             | AZ    | 3,660   | \$279.44   | New            |
|                    | Fairhope Green Home                 | Fairhope           | AL    | 3,610   | \$315.43   | New            |
|                    | PATH Concept House                  | Omaha              | NE    | 3,490   | \$132.93   | New            |
|                    | Private Residence                   | La Jolla           | CA    | 3,420   | \$542.48   | New            |
|                    | Solar House - Private Residence     | Fly Creek          | NY    | 3,304   | \$281.28   | New            |
|                    | Elliott Residence                   | Fort Collins       | CO    | 3,300   | \$414.20   | New            |
|                    | Renfrew House                       | Manitoba           | CA    | 3,206   | \$302.01   | New            |
|                    | Rosado I Hansen Residence           | Tucson             | AZ    | 3,175   | \$216.60   | New            |
|                    | 306 W. Waldburg Residence           | Savannah           | GA    | 2,588   | \$266.64   | New            |
|                    | Nutter Green Home                   | Milford            | OH    | 2,289   | \$255.17   | New            |
|                    | Guest House Residence               | Ahwatukee          | AZ    | 1,913   | \$594.60   | New            |
|                    | Kiwi House                          | Baton Rouge        | LA    | 1,515   | \$249.25   | New            |
|                    | Private Residence Renovation        | Shavertown         | PA    | 810     | \$258.29   | Renovation     |

# Part Four

## ***Metro Area Multipliers***

The costs as presented in this book attempt to represent national averages. Costs, however, vary among regions, states and even between adjacent localities.

In order to more closely approximate the probable costs for specific locations throughout the U.S., this table of Metro Area Multipliers is provided. These adjustment factors can be used to modify costs obtained from this book to help account for regional variations of construction costs and to provide a more accurate estimate for specific areas. The factors are formulated by comparing costs in a specific area to the costs presented in this Costbook. An example of how to use these factors is shown below. Whenever local current costs are known, whether material prices or labor rates, they should be used when more accuracy is required.

|                                     |          |                              |          |                      |
|-------------------------------------|----------|------------------------------|----------|----------------------|
| <b>Cost from Costbook<br/>Pages</b> | <b>X</b> | <b>Metro Area Multiplier</b> | <b>=</b> | <b>Adjusted Cost</b> |
|-------------------------------------|----------|------------------------------|----------|----------------------|

For example, a project estimated to cost \$1,000,000 using the Costbook pages can be adjusted to more closely approximate the cost in Los Angeles:

$$\begin{array}{cccccc} \$1,000,000 & X & 1.20 & = & \$1,200,000 \end{array}$$

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| AK    | ANCHORAGE         | 1.09       |
|       | FAIRBANKS         | 1.09       |
|       | JUNEAU            | 1.09       |
|       | KETCHIKAN         | 1.09       |
|       | KODIAK            | 1.09       |
|       | NOME              | 1.09       |
|       | OTHER             | 1.09       |
|       | SITKA             | 1.09       |
| AL    | ANNISTON          | 0.83       |
|       | AUBURN            | 0.83       |
|       | BIRMINGHAM        | 0.84       |
|       | DECATUR           | 0.84       |
|       | DOOTHAN           | 0.81       |
|       | FLORENCE          | 0.84       |
|       | GADSDEN           | 0.83       |
|       | HUNTSVILLE        | 0.82       |
|       | MOBILE            | 0.83       |
|       | MONTGOMERY        | 0.83       |
|       | OPELIKA           | 0.83       |
|       | OTHER             | 0.83       |
|       | PRATTVILLE        | 0.83       |
|       | SELMA             | 0.83       |
|       | TUSCALOOSA        | 0.84       |
|       |                   |            |
| AR    | BATESVILLE        | 0.80       |
|       | CONWAY            | 0.80       |
|       | EL DORADO         | 0.80       |
|       | FAYETTEVILLE      | 0.80       |
|       | FORT SMITH        | 0.80       |
|       | HOT SPRINGS       | 0.80       |
|       | JONESBORO         | 0.79       |
|       | LITTLE ROCK       | 0.82       |
|       | NORTH LITTLE ROCK | 0.82       |
|       | OTHER             | 0.80       |
|       | PINE BLUFF        | 0.80       |
|       | ROGERS            | 0.78       |
|       | SPRINGDALE        | 0.80       |
|       | TEXARKANA         | 0.80       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| AZ    | CASA GRANDE       | 0.83       |
|       | CLIFTON           | 0.83       |
|       | FLAGSTAFF         | 0.84       |
|       | LAKE HAVASU CITY  | 0.83       |
|       | MESA              | 0.85       |
|       | OTHER             | 0.83       |
|       | PHOENIX           | 0.85       |
|       | SIERRA VISTA      | 0.83       |
|       | TUCSON            | 0.82       |
|       | YUMA              | 0.81       |
| CA    | ANAHEIM           | 1.21       |
|       | BAKERSFIELD       | 1.20       |
|       | CHICO             | 1.17       |
|       | EUREKA            | 1.17       |
|       | FAIRFIELD         | 1.17       |
|       | FRESNO            | 1.21       |
|       | LODI              | 1.21       |
|       | LONG BEACH        | 1.20       |
|       | LOS ANGELES       | 1.20       |
|       | MERCED            | 1.21       |
|       | MODESTO           | 1.21       |
|       | NAPA              | 1.17       |
|       | OAKLAND           | 1.21       |
|       | ORANGE COUNTY     | 1.21       |
|       | OTHER             | 1.20       |
|       | PARADISE          | 1.17       |
|       | PORTERVILLE       | 1.07       |
|       | REDDING           | 1.17       |
|       | RIVERSIDE         | 1.20       |
|       | SACRAMENTO        | 1.17       |
|       | SALINAS           | 1.21       |
|       | SAN BERNARDINO    | 1.21       |
|       | SAN DIEGO         | 1.18       |
|       | SAN FRANCISCO     | 1.21       |
|       | SAN JOSE          | 1.21       |
|       | SAN LUIS OBISPO   | 1.20       |
|       | SANTA BARBARA     | 1.20       |
|       | SANTA CRUZ        | 1.21       |
|       | SANTA ROSA        | 1.17       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area      | Multiplier |
|-------|------------------------|------------|
| CA    | STOCKTON               | 1.21       |
|       | TULARE                 | 1.07       |
|       | VALLEJO-FAIRFIELD-NAPA | 1.17       |
|       | VENTURA                | 1.20       |
|       | VISALIA                | 1.07       |
|       | WATSONVILLE            | 1.21       |
|       | YOLO                   | 1.17       |
|       | YUBA CITY              | 1.17       |
|       |                        |            |
| CO    | BOULDER                | 0.91       |
|       | COLORADO SPRINGS       | 0.90       |
|       | DENVER                 | 0.90       |
|       | DURANGO                | 0.90       |
|       | FORT COLLINS           | 0.88       |
|       | GRAND JUNCTION         | 0.88       |
|       | GREELEY                | 0.89       |
|       | LONGMONT               | 0.91       |
|       | LOVELAND               | 0.88       |
|       | OTHER                  | 0.90       |
|       | PUEBLO                 | 0.89       |
|       | STERLING               | 0.90       |
|       |                        |            |
| CT    | BRIDGEPORT             | 1.11       |
|       | DANBURY                | 1.11       |
|       | HARTFORD               | 1.11       |
|       | MANCHESTER             | 1.11       |
|       | MERIDEN                | 1.10       |
|       | MIDDLETOWN             | 1.11       |
|       | NEW HAVEN              | 1.10       |
|       | NEW LONDON             | 1.10       |
|       | NORWALK                | 1.11       |
|       | NORWICH                | 1.10       |
|       | OTHER                  | 1.10       |
|       | STAMFORD               | 1.11       |
|       | TORRINGTON             | 1.10       |
|       | WATERBURY              | 1.10       |
|       |                        |            |
| DC    | WASHINGTON DC          | 1.00       |
| DE    | DOVER                  | 1.08       |
|       | NEWARK                 | 1.07       |
|       | OTHER                  | 1.07       |
|       | WILMINGTON             | 1.07       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| FL    | BLOUNTSTOWN       | 0.86       |
|       | BOCA RATON        | 0.86       |
|       | BOSTWICK          | 0.90       |
|       | BRADENTON         | 0.87       |
|       | CAPE CORAL        | 0.86       |
|       | CLEARWATER        | 0.86       |
|       | DAYTONA BEACH     | 0.85       |
|       | FORT LAUDERDALE   | 0.88       |
|       | FORT MYERS        | 0.86       |
|       | FORT PIERCE       | 0.86       |
|       | FORT WALTON BEACH | 0.85       |
|       | GAINESVILLE       | 0.85       |
|       | JACKSONVILLE      | 0.87       |
|       | LAKELAND          | 0.84       |
|       | MELBOURNE         | 0.91       |
|       | MIAMI             | 0.87       |
|       | NAPLES            | 0.86       |
|       | OCALA             | 0.85       |
|       | ORLANDO           | 0.84       |
|       | OTHER             | 0.86       |
|       | PALM BAY          | 0.91       |
|       | PANAMA CITY       | 0.86       |
|       | PENSACOLA         | 0.84       |
|       | PORT ST. LUCIE    | 0.86       |
|       | PUNTA GORDA       | 0.86       |
|       | SARASOTA          | 0.86       |
|       | ST PETERSBURG     | 0.86       |
|       | TALLAHASSEE       | 0.84       |
|       | TAMPA             | 0.85       |
|       | TITUSVILLE        | 0.91       |
|       | WEST PALM BEACH   | 0.86       |
|       | WINTER HAVEN      | 0.84       |
| GA    | ALBANY            | 0.86       |
|       | ATHENS            | 0.84       |
|       | ATLANTA           | 0.84       |
|       | AUGUSTA           | 0.84       |
|       | COLUMBUS          | 0.82       |
|       | MACON             | 0.84       |
|       | MARIETTA          | 0.84       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| GA    | OTHER             | 0.84       |
|       | ROME              | 0.84       |
|       | SAVANNAH          | 0.85       |
|       | VALDOSTA          | 0.84       |
| HI    | HILO              | 1.16       |
|       | HONOLULU          | 1.16       |
|       | MAUI              | 1.16       |
|       | OTHER             | 1.16       |
| IA    | BURLINGTON        | 0.93       |
|       | CEDAR FALLS       | 0.89       |
|       | CEDAR RAPIDS      | 0.92       |
|       | COUNCIL BLUFFS    | 0.93       |
|       | DAVENPORT         | 0.96       |
|       | DES MOINES        | 0.96       |
|       | DUBUQUE           | 0.94       |
|       | FT. DODGE         | 0.93       |
|       | IOWA CITY         | 0.93       |
|       | MARSHALLTOWN      | 0.93       |
|       | MASON CITY        | 0.93       |
|       | OTHER             | 0.93       |
|       | OTTUMWA           | 0.93       |
|       | SIOUX CITY        | 0.92       |
|       | WATERLOO          | 0.89       |
| ID    | BOISE CITY        | 0.87       |
|       | LEWISTON          | 0.88       |
|       | OTHER             | 0.88       |
|       | POCATELLO         | 0.89       |
|       | SALMON            | 0.88       |
|       | ST. ANTHONY       | 0.88       |
|       | ST. MARIES        | 0.88       |
|       | TWIN FALLS        | 0.88       |
| IL    | ALTON             | 1.05       |
|       | BLOOMINGTON       | 1.04       |
|       | CHAMPAIGN         | 1.02       |
|       | CHICAGO           | 1.19       |
|       | DE KALB           | 1.04       |
|       | DECATUR           | 1.00       |
|       | EAST ST. LOUIS    | 1.05       |
|       | FREEPORT          | 1.04       |
|       | HARRISBURG        | 1.02       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| IL    | KANKAKEE          | 1.18       |
|       | MOLINE            | 1.04       |
|       | NORMAL            | 1.04       |
|       | OTHER             | 1.05       |
|       | PEKIN             | 1.01       |
|       | PEORIA            | 1.01       |
|       | ROCKFORD          | 1.04       |
|       | SPRINGFIELD       | 1.00       |
|       | URBANA            | 1.02       |
| IN    | BLOOMINGTON       | 0.94       |
|       | COLUMBUS          | 0.94       |
|       | ELKHART           | 1.00       |
|       | EVANSVILLE        | 0.95       |
|       | FORT WAYNE        | 0.94       |
|       | GARY              | 1.02       |
|       | GOSHEN            | 1.00       |
|       | INDIANAPOLIS      | 0.94       |
|       | KOKOMO            | 0.94       |
|       | LAFAYETTE         | 0.94       |
|       | MUNCIE            | 0.94       |
|       | NEW ALBANY        | 0.97       |
|       | OTHER             | 0.97       |
|       | SOUTH BEND        | 1.02       |
| KS    | TERRE HAUTE       | 0.95       |
|       | DODGE CITY        | 1.01       |
|       | HUTCHINSON        | 1.01       |
|       | KANSAS CITY       | 1.04       |
|       | LAWRENCE          | 1.02       |
|       | MANHATTAN         | 1.01       |
|       | OLATHE            | 1.01       |
|       | OTHER             | 1.01       |
|       | SALINA            | 1.01       |
| KY    | TOPEKA            | 1.00       |
|       | WICHITA           | 0.95       |
|       | BOWLING GREEN     | 0.92       |
|       | HOPKINSVILLE      | 0.92       |
|       | LEXINGTON         | 0.93       |
|       | LOUISVILLE        | 0.91       |
|       | MAYFIELD          | 0.92       |
|       | MAYSVILLE         | 0.92       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| KY    | OTHER             | 0.92       |
|       | OWENSBORO         | 0.92       |
|       | PADUCAH           | 0.92       |
| LA    | ALEXANDRIA        | 0.84       |
|       | BATON ROUGE       | 0.85       |
|       | BOSSIER CITY      | 0.84       |
|       | HOUMA             | 0.85       |
|       | LAFAYETTE         | 0.84       |
|       | LAKE CHARLES      | 0.84       |
|       | MONROE            | 0.83       |
|       | NEW IBERIA        | 0.84       |
|       | NEW ORLEANS       | 0.85       |
|       | OTHER             | 0.84       |
| MA    | SHREVEPORT        | 0.85       |
|       | ATTLEBORO         | 1.17       |
|       | BARNSTABLE        | 1.17       |
|       | BOSTON            | 1.17       |
|       | BROCKTON          | 1.21       |
|       | FALL RIVER        | 1.17       |
|       | FITCHBURG         | 1.18       |
|       | FRAMINGHAM        | 1.17       |
|       | HAVERHILL         | 1.17       |
|       | LAWRENCE          | 1.17       |
|       | LEOMINSTER        | 1.18       |
|       | LOWELL            | 1.17       |
|       | NEW BEDFORD       | 1.17       |
|       | NORTHAMPTON       | 1.06       |
|       | OTHER             | 1.14       |
|       | PITTSFIELD        | 1.06       |
|       | SPRINGFIELD       | 1.06       |
|       | WORCESTER         | 1.18       |
|       | YARMOUTH          | 1.17       |
| MD    | ABERDEEN          | 0.89       |
|       | ANNAPOLIS         | 0.89       |
|       | BALTIMORE         | 0.91       |
|       | CUMBERLAND        | 0.87       |
|       | FREDERICK         | 0.89       |
|       | HAGERSTOWN        | 0.89       |
|       | LEXINGTON PARK    | 0.89       |
|       | OTHER             | 0.89       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| MD    | ROCKVILLE         | 0.89       |
|       | SALISBURY         | 0.89       |
| ME    | AUBURN            | 0.84       |
|       | AUGUSTA           | 0.83       |
|       | BANGOR            | 0.82       |
|       | BIDDEFORD         | 0.83       |
|       | FARMINGTON        | 0.83       |
|       | LEWISTOWN         | 0.84       |
|       | OTHER             | 0.83       |
|       | PORTLAND          | 0.84       |
|       | SANFORD           | 0.83       |
| MI    | ANN ARBOR         | 1.03       |
|       | BATTLE CREEK      | 0.94       |
|       | BAY CITY          | 0.93       |
|       | BENTON HARBOR     | 0.95       |
|       | CHEBOYGAN         | 0.94       |
|       | DETROIT           | 1.02       |
|       | EAST LANSING      | 0.96       |
|       | FLINT             | 0.98       |
|       | GRAND RAPIDS      | 0.84       |
|       | HOLLAND           | 0.88       |
|       | JACKSON           | 0.97       |
|       | KALAMAZOO         | 0.94       |
|       | LANSING           | 0.96       |
|       | MARQUETTE         | 0.94       |
|       | MIDLAND           | 0.92       |
|       | MUSKEGON          | 0.87       |
|       | OTHER             | 0.94       |
|       | SAGINAW           | 0.92       |
| MN    | AUSTIN            | 1.07       |
|       | DULUTH            | 1.05       |
|       | GRAND FORKS       | 1.07       |
|       | GRAND RAPIDS      | 1.07       |
|       | MANKATO           | 1.07       |
|       | MINNEAPOLIS       | 1.09       |
|       | MOORHEAD          | 1.07       |
|       | OTHER             | 1.07       |
|       | ROCHESTER         | 1.05       |
|       | ST CLOUD          | 1.05       |
|       | ST PAUL           | 1.09       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| MO    | COLUMBIA          | 1.00       |
|       | FARMINGTON        | 1.00       |
|       | JEFFERSON CITY    | 1.00       |
|       | JOPLIN            | 0.91       |
|       | KANSAS CITY       | 1.06       |
|       | OTHER             | 1.00       |
|       | POPLAR BLUFF      | 1.00       |
|       | SAINT JOSEPH      | 1.05       |
|       | SAINT LOUIS       | 1.02       |
|       | SPRINGFIELD       | 0.90       |
| MS    | BILOXI            | 0.82       |
|       | COLUMBUS          | 0.82       |
|       | GREENVILLE        | 0.82       |
|       | GULFPORT          | 0.82       |
|       | HATTIESBURG       | 0.83       |
|       | HELENA            | 0.84       |
|       | JACKSON           | 0.80       |
|       | MERIDIAN          | 0.82       |
|       | OTHER             | 0.82       |
|       | PASCAGOULA        | 0.84       |
| MT    | VICKSBURG         | 0.82       |
|       | BILLINGS          | 0.91       |
|       | BUTTE             | 0.92       |
|       | GLASGOW           | 0.92       |
|       | GREAT FALLS       | 0.92       |
|       | HAVRE             | 0.92       |
|       | HELENA            | 0.92       |
|       | KALISPELL         | 0.92       |
|       | MILES CITY        | 0.92       |
|       | MISSOULA          | 0.92       |
| NC    | OTHER             | 0.92       |
|       | ASHEVILLE         | 0.79       |
|       | CHAPEL HILL       | 0.78       |
|       | CHARLOTTE         | 0.79       |
|       | DURHAM            | 0.78       |
|       | FAYETTEVILLE      | 0.79       |
|       | GASTONIA          | 0.79       |
|       | GOLDSBORO         | 0.79       |
|       | GREENSBORO        | 0.78       |
|       | GREENVILLE        | 0.78       |

## METRO AREA MULTIPLIERS

| State     | Metropolitan Area | Multiplier |
|-----------|-------------------|------------|
| NC        | HICKORY           | 0.79       |
|           | HIGH POINT        | 0.78       |
|           | JACKSONVILLE      | 0.79       |
|           | KANNAPOLIS        | 0.79       |
|           | LENOIR            | 0.80       |
|           | MORGANTON         | 0.80       |
|           | OTHER             | 0.79       |
|           | RALEIGH           | 0.79       |
|           | ROCKY MOUNT       | 0.78       |
|           | WILMINGTON        | 0.78       |
| ND        | WINSTON-SALEM     | 0.78       |
|           | BISMARCK          | 0.89       |
|           | DICKINSON         | 0.91       |
|           | FARGO             | 0.92       |
|           | GRAND FORKS       | 0.90       |
|           | JAMESTOWN         | 0.91       |
|           | MINOT             | 0.91       |
|           | OTHER             | 0.91       |
| NE        | WILLISTON         | 0.91       |
|           | BEATRICE          | 0.91       |
|           | CHADRON           | 0.91       |
|           | COLUMBUS          | 0.91       |
|           | GRAND ISLAND      | 0.91       |
|           | LINCOLN           | 0.89       |
|           | NORFOLK           | 0.91       |
|           | NORTH PLATTE      | 0.91       |
|           | OMAHA             | 0.93       |
|           | OTHER             | 0.91       |
| NH        | SCOTTSBLUFF       | 0.91       |
|           | VALENTINE         | 0.91       |
|           | BERLIN            | 0.89       |
|           | CLAREMONT         | 0.89       |
|           | CONCORD           | 0.89       |
|           | KEENE             | 0.89       |
|           | LACONIA           | 0.89       |
|           | MANCHESTER        | 0.89       |
|           | NASHUA            | 0.89       |
|           | OTHER             | 0.89       |
| ROCHESTER | PORTSMOUTH        | 0.90       |
|           | ROCHESTER         | 0.89       |

## METRO AREA MULTIPLIERS

| State     | Metropolitan Area | Multiplier |
|-----------|-------------------|------------|
| <b>NJ</b> | ATLANTIC CITY     | 1.20       |
|           | BERGEN            | 1.24       |
|           | BRIDGETON         | 1.19       |
|           | CAMDEN            | 1.21       |
|           | CAPE MAY          | 1.18       |
|           | FLANDERS          | 1.21       |
|           | HAMMONTON         | 1.20       |
|           | HUNTERDON         | 1.20       |
|           | JERSEY CITY       | 1.23       |
|           | LAKEWOOD          | 1.21       |
|           | MIDDLESEX         | 1.20       |
|           | MILLVILLE         | 1.19       |
|           | MONMOUTH          | 1.19       |
|           | NEW BRUNSWICK     | 1.21       |
|           | NEWARK            | 1.22       |
|           | OCEAN             | 1.18       |
|           | OTHER             | 1.21       |
|           | PASSAIC           | 1.23       |
|           | PATERSON          | 1.23       |
|           | SOMERSET          | 1.22       |
|           | TRENTON           | 1.20       |
|           | VINELAND          | 1.19       |
|           | WASHINGTON        | 1.21       |
|           | WILLINGBORO       | 1.21       |
| <b>NM</b> | ALAMOGORDO        | 0.88       |
|           | ALBUQUERQUE       | 0.88       |
|           | CARLSBAD          | 0.88       |
|           | FARMINGTON        | 0.88       |
|           | GALLUP            | 0.88       |
|           | LAS CRUCES        | 0.87       |
|           | LAS VEGAS         | 0.88       |
|           | OTHER             | 0.88       |
|           | SANTA FE          | 0.88       |
| <b>NV</b> | CARSON CITY       | 1.14       |
|           | ELY               | 1.14       |
|           | HAWTHORNE         | 1.14       |
|           | HENDERSON         | 1.15       |
|           | LAS VEGAS         | 1.15       |
|           | OTHER             | 1.14       |
|           | RENO              | 1.14       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| NV    | SPARKS            | 1.14       |
|       | WINNEMUCCA        | 1.14       |
| NY    | ALBANY            | 1.06       |
|       | AMSTERDAM         | 1.06       |
|       | BINGHAMTON        | 1.06       |
|       | BUFFALO           | 1.04       |
|       | DUTCHESS COUNTY   | 1.18       |
|       | ELMIRA            | 1.04       |
|       | GLENS FALLS       | 1.08       |
|       | ITHACA            | 1.11       |
|       | JAMESTOWN         | 1.11       |
|       | KINGSTON          | 1.18       |
|       | LOCKPORT          | 0.97       |
|       | LONG ISLAND       | 1.27       |
|       | MALONE            | 1.11       |
|       | NASSAU            | 1.27       |
|       | NEW YORK CITY     | 1.38       |
|       | NEWBURGH          | 1.18       |
|       | NIAGARA FALLS     | 0.97       |
|       | OTHER             | 1.11       |
|       | ROCHESTER         | 1.04       |
|       | ROME              | 0.94       |
|       | SCHENECTADY       | 1.06       |
|       | SUFFOLK           | 1.27       |
|       | SYRACUSE          | 0.96       |
|       | TROY              | 1.06       |
|       | UTICA             | 0.94       |
|       | WATERTOWN         | 1.11       |
|       | WHITE PLAINS      | 1.11       |
| OH    | AKRON             | 0.97       |
|       | CANTON            | 0.94       |
|       | CINCINNATI        | 0.94       |
|       | CLEVELAND         | 0.99       |
|       | COLUMBUS          | 0.95       |
|       | DAYTON            | 0.93       |
|       | ELYRIA            | 0.99       |
|       | FINDLAY           | 0.95       |
|       | HAMILTON          | 0.95       |
|       | LIMA              | 0.93       |
|       | LORAIN            | 0.99       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| OH    | MANSFIELD         | 0.95       |
|       | MARION            | 0.95       |
|       | MASSILLON         | 0.94       |
|       | MIDDLETOWN        | 0.95       |
|       | OTHER             | 0.95       |
|       | PORTSMOUTH        | 0.95       |
|       | SPRINGFIELD       | 0.94       |
|       | STEUBENVILLE      | 0.94       |
|       | TOLEDO            | 0.97       |
|       | WARREN            | 0.94       |
| OK    | YOUNGSTOWN        | 0.94       |
|       | BARTLESVILLE      | 0.87       |
|       | ENID              | 0.85       |
|       | LAWTON            | 0.86       |
|       | MUSKOGEE          | 0.87       |
|       | NORMAN            | 0.87       |
|       | OKLAHOMA CITY     | 0.87       |
|       | OTHER             | 0.87       |
|       | PONCA CITY        | 0.87       |
| OR    | TULSA             | 0.87       |
|       | ASHLAND           | 1.00       |
|       | BEND              | 1.05       |
|       | CORVALLIS         | 1.05       |
|       | EUGENE            | 1.05       |
|       | MEDFORD           | 1.00       |
|       | OTHER             | 1.05       |
|       | PENDLETON         | 1.05       |
|       | PORTLAND          | 1.08       |
|       | SALEM             | 1.06       |
| PA    | SPRINGFIELD       | 1.05       |
|       | THE DALLES        | 1.05       |
|       | ALLENTOWN         | 1.00       |
|       | ALTOONA           | 0.97       |
|       | BETHLEHEM         | 1.02       |
|       | CARLISLE          | 0.97       |
|       | EASTON            | 1.02       |
|       | ERIE              | 0.97       |
|       | HARRISBURG        | 0.98       |
| PA    | HAZLETON          | 0.99       |
|       | JOHNSTOWN         | 0.97       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| PA    | LANCASTER         | 0.97       |
|       | LEBANON           | 0.97       |
|       | NEW CASTLE        | 1.00       |
|       | OTHER             | 1.00       |
|       | PHILADELPHIA      | 1.14       |
|       | PITTSBURGH        | 1.02       |
|       | READING           | 1.02       |
|       | SCRANTON          | 0.99       |
|       | SHARON            | 0.99       |
|       | STATE COLLEGE     | 0.98       |
|       | WILKES-BARRE      | 0.99       |
|       | WILLIAMSPORT      | 0.99       |
|       | YORK              | 0.97       |
| PR    | MAYAGUEZ          | 0.73       |
|       | OTHER             | 0.73       |
|       | PONCE             | 0.73       |
|       | SAN JUAN          | 0.73       |
| RI    | NEWPORT           | 1.07       |
|       | OTHER             | 1.07       |
|       | PAWTUCKET         | 1.07       |
|       | PROVIDENCE        | 1.07       |
|       | WARWICK           | 1.07       |
|       | WESTERLY          | 1.07       |
|       | WOONSOCKET        | 1.07       |
| SC    | AIKEN             | 0.90       |
|       | ANDERSON          | 0.78       |
|       | CHARLESTON        | 0.79       |
|       | COLUMBIA          | 0.78       |
|       | FLORENCE          | 0.80       |
|       | GREENVILLE        | 0.78       |
|       | MYRTLE BEACH      | 0.77       |
|       | NORTH CHARLESTON  | 0.79       |
|       | OTHER             | 0.81       |
|       | ROCK HILL         | 0.81       |
|       | SPARTANBURG       | 0.79       |
|       | SUMTER            | 0.78       |
| SD    | ABERDEEN          | 0.84       |
|       | BROOKINGS         | 0.84       |
|       | MITCHELL          | 0.84       |
|       | OTHER             | 0.84       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| SD    | PIERRE            | 0.84       |
|       | RAPID CITY        | 0.84       |
|       | SIOUX FALLS       | 0.84       |
|       | WATERTOWN         | 0.84       |
| TN    | CHATTANOOGA       | 0.86       |
|       | CLARKSVILLE       | 0.86       |
|       | JACKSON           | 0.86       |
|       | JOHNSON CITY      | 0.84       |
|       | KNOXVILLE         | 0.87       |
|       | MEMPHIS           | 0.87       |
|       | NASHVILLE         | 0.85       |
|       | OTHER             | 0.86       |
| TX    | ABILENE           | 0.84       |
|       | AMARILLO          | 0.84       |
|       | ARLINGTON         | 0.82       |
|       | AUSTIN            | 0.86       |
|       | BEAUMONT          | 0.85       |
|       | BRAZORIA          | 0.84       |
|       | BROWNSVILLE       | 0.83       |
|       | BRYAN             | 0.87       |
|       | COLLEGE STATION   | 0.87       |
|       | CORPUS CHRISTI    | 0.84       |
|       | DALLAS            | 0.84       |
|       | DENISON           | 0.85       |
|       | EDINBURG          | 0.84       |
|       | EL PASO           | 0.83       |
|       | FORT WORTH        | 0.82       |
|       | GALVESTON         | 0.84       |
|       | HARLINGEN         | 0.83       |
|       | HOUSTON           | 0.86       |
|       | KILLEEN           | 0.81       |
|       | LAREDO            | 0.84       |
|       | LONGVIEW          | 0.84       |
|       | LUBBOCK           | 0.85       |
|       | MARSHALL          | 0.81       |
|       | MCALLEN           | 0.84       |
|       | MIDLAND           | 0.84       |
|       | MISSION           | 0.84       |
|       | ODESSA            | 0.84       |
|       | OTHER             | 0.84       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| TX    | PORT ARTHUR       | 0.85       |
|       | SAN ANGELO        | 0.83       |
|       | SAN ANTONIO       | 0.88       |
|       | SAN BENITO        | 0.83       |
|       | SAN MARCOS        | 0.85       |
|       | SHERMAN           | 0.85       |
|       | TEMPLE            | 0.81       |
|       | TEXARKANA         | 0.83       |
|       | TEXAS CITY        | 0.84       |
|       | TYLER             | 0.82       |
|       | VICTORIA          | 0.84       |
|       | WACO              | 0.84       |
|       | WICHITA FALLS     | 0.85       |
| UT    | LOGAN             | 0.86       |
|       | OGDEN             | 0.86       |
|       | OREM              | 0.85       |
|       | OTHER             | 0.86       |
|       | PROVO             | 0.85       |
|       | SALT LAKE CITY    | 0.87       |
| VA    | ALEXANDRIA        | 0.85       |
|       | ARLINGTON         | 0.85       |
|       | CHARLOTTESVILLE   | 0.85       |
|       | LYNCHBURG         | 0.84       |
|       | NEWPORT NEWS      | 0.86       |
|       | NORFOLK           | 0.85       |
|       | OTHER             | 0.85       |
|       | PETERSBURG        | 0.85       |
|       | RICHMOND          | 0.85       |
|       | ROANOKE           | 0.84       |
|       | VIRGINIA BEACH    | 0.85       |
| VT    | BARRE             | 0.83       |
|       | BRATTLEBORO       | 0.83       |
|       | BURLINGTON        | 0.83       |
|       | NEWPORT           | 0.83       |
|       | OTHER             | 0.83       |
|       | RUTLAND           | 0.83       |
|       | SPRINGFIELD       | 0.83       |
|       | ST. ALBANS        | 0.83       |
|       | ST. JOHNSBURY     | 0.83       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| WA    | BELLEVUE          | 1.15       |
|       | BELLINGHAM        | 1.09       |
|       | BREMERTON         | 1.11       |
|       | EVERETT           | 1.13       |
|       | KENNEWICK         | 0.97       |
|       | OLYMPIA           | 1.12       |
|       | OTHER             | 1.06       |
|       | PASCO             | 0.97       |
|       | RICHLAND          | 0.97       |
|       | SEATTLE           | 1.15       |
|       | SPOKANE           | 0.92       |
|       | TACOMA            | 1.14       |
|       | VANCOUVER         | 1.06       |
|       | YAKIMA            | 0.98       |
| WI    | APPLETON          | 1.03       |
|       | BELOIT            | 1.05       |
|       | EAU CLAIRE        | 1.03       |
|       | FOND DU LAC       | 1.05       |
|       | GREEN BAY         | 1.03       |
|       | JANESVILLE        | 1.05       |
|       | KENOSHA           | 1.06       |
|       | LA CROSSE         | 1.03       |
|       | MADISON           | 1.05       |
|       | MILWAUKEE         | 1.08       |
|       | NEENAH            | 1.03       |
|       | OSHKOSH           | 1.03       |
|       | OTHER             | 1.05       |
|       | RACINE            | 1.06       |
|       | SHEBOYGAN         | 1.03       |
|       | SUPERIOR          | 1.05       |
|       | WAUKESHA          | 1.08       |
|       | WAUSAU            | 1.03       |

## METRO AREA MULTIPLIERS

| State | Metropolitan Area | Multiplier |
|-------|-------------------|------------|
| WV    | BECKLEY           | 0.97       |
|       | CHARLESTON        | 0.98       |
|       | CLARKSBURG        | 0.97       |
|       | HUNTINGTON        | 0.99       |
|       | MORGANTOWN        | 0.97       |
|       | OTHER             | 0.97       |
|       | PARKERSBURG       | 0.98       |
|       | WHEELING          | 0.94       |
| WY    | CASPER            | 0.86       |
|       | CHEYENNE          | 0.86       |
|       | LARAMIE           | 0.86       |
|       | OTHER             | 0.86       |
|       | ROCK SPRINGS      | 0.86       |
|       | SHERIDAN          | 0.86       |



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