

# **MasterFormat® Numbers & Titles**

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| 01 57 23        | Temporary Storm Water Pollution Control                           |
| 01 57 26        | Site Watering for Dust Control                                    |
| <b>01 58 00</b> | <b>Project Identification</b>                                     |
| 01 58 13        | Temporary Project Signage                                         |
| 01 58 16        | Temporary Interior Signage                                        |
| <b>01 60 00</b> | <b>Product Requirements</b>                                       |
| <b>01 61 00</b> | <b>Common Product Requirements</b>                                |
| 01 61 13        | Software Licensing Requirements                                   |
| <b>01 62 00</b> | <b>Product Options</b>                                            |
| <b>01 64 00</b> | <b>Owner-Furnished Products</b>                                   |
| <b>01 65 00</b> | <b>Product Delivery Requirements</b>                              |
| <b>01 66 00</b> | <b>Product Storage and Handling Requirements</b>                  |
| 01 66 13        | Product Storage and Handling Requirements for Hazardous Materials |
| 01 66 16        | Product Storage and Handling Requirements for Toxic Materials     |
| <b>01 70 00</b> | <b>Execution and Closeout Requirements</b>                        |
| <b>01 71 00</b> | <b>Examination and Preparation</b>                                |

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|-----------------|-------------------------------------------------------|
| 01 71 13        | Mobilization                                          |
| 01 71 16        | Acceptance of Conditions                              |
| 01 71 23        | Field Engineering                                     |
| 01 71 23.13     | Construction Layout                                   |
| 01 71 23.16     | Construction Surveying                                |
| 01 71 33        | Protection of Adjacent Construction                   |
| 01 71 36        | Non-Destructive Concrete Examination                  |
| <b>01 73 00</b> | <b>Execution</b>                                      |
| 01 73 13        | Application                                           |
| 01 73 16        | Erection                                              |
| 01 73 19        | Installation                                          |
| 01 73 23        | Bracing and Anchoring                                 |
| 01 73 26        | Existing Products                                     |
| 01 73 29        | Cutting and Patching                                  |
| <b>01 74 00</b> | <b>Cleaning and Waste Management</b>                  |
| 01 74 13        | Progress Cleaning                                     |
| 01 74 16        | Site Maintenance                                      |
| 01 74 19        | Construction Waste Management and Disposal            |
| 01 74 23        | Final Cleaning                                        |
| <b>01 75 00</b> | <b>Starting and Adjusting</b>                         |
| 01 75 13        | Checkout Procedures                                   |
| 01 75 16        | Startup Procedures                                    |
| <b>01 76 00</b> | <b>Protecting Installed Construction</b>              |
| <b>01 77 00</b> | <b>Closeout Procedures</b>                            |
| 01 77 13        | Preliminary Closeout Reviews                          |
| 01 77 16        | Final Closeout Review                                 |
| 01 77 19        | Closeout Requirements                                 |
| <b>01 78 00</b> | <b>Closeout Submittals</b>                            |
| 01 78 13        | Completion and Correction List                        |
| 01 78 19        | Maintenance Contracts                                 |
| 01 78 23        | Operation and Maintenance Data                        |
| 01 78 23.13     | Operation Data                                        |
| 01 78 23.16     | Maintenance Data                                      |
| 01 78 23.19     | Preventative Maintenance Instructions                 |
| 01 78 29        | Final Site Survey                                     |
| 01 78 33        | Bonds                                                 |
| 01 78 36        | Warranties                                            |
| 01 78 39        | Project Record Documents                              |
| 01 78 43        | Spare Parts                                           |
| 01 78 46        | Extra Stock Materials                                 |
| 01 78 53        | Sustainable Design Closeout Documentation             |
| <b>01 79 00</b> | <b>Demonstration and Training</b>                     |
| <b>01 80 00</b> | <b>Performance Requirements</b>                       |
| <b>01 81 00</b> | <b>Facility Performance Requirements</b>              |
| 01 81 13        | Sustainable Design Requirements                       |
| 01 81 16        | Facility Environmental Requirements                   |
| 01 81 19        | Indoor Air Quality Requirements                       |
| <b>01 82 00</b> | <b>Facility Substructure Performance Requirements</b> |

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|-----------------|-------------------------------------------------------------|
| 01 82 13        | Foundation Performance Requirements                         |
| 01 82 16        | Basement Construction Performance Requirements              |
| <b>01 83 00</b> | <b>Facility Shell Performance Requirements</b>              |
| 01 83 13        | Superstructure Performance Requirements                     |
| 01 83 16        | Exterior Enclosure Performance Requirements                 |
| 01 83 19        | Roofing Performance Requirements                            |
| <b>01 84 00</b> | <b>Interiors Performance Requirements</b>                   |
| 01 84 13        | Interior Construction Performance Requirements              |
| 01 84 16        | Stairways Performance Requirements                          |
| 01 84 19        | Interior Finishes Performance Requirements                  |
| <b>01 85 00</b> | <b>Conveying Equipment Performance Requirements</b>         |
| <b>01 86 00</b> | <b>Facility Services Performance Requirements</b>           |
| 01 86 13        | Fire Suppression Performance Requirements                   |
| 01 86 16        | Plumbing Performance Requirements                           |
| 01 86 19        | HVAC Performance Requirements                               |
| 01 86 23        | Integrated Automation Performance Requirements              |
| 01 86 26        | Electrical Performance Requirements                         |
| 01 86 29        | Communications Performance Requirements                     |
| 01 86 33        | Electronic Safety and Security Performance Requirements     |
| <b>01 87 00</b> | <b>Equipment and Furnishings Performance Requirements</b>   |
| 01 87 13        | Equipment Performance Requirements                          |
| 01 87 16        | Furnishings Performance Requirements                        |
| <b>01 88 00</b> | <b>Other Facility Construction Performance Requirements</b> |
| 01 88 13        | Special Construction Performance Requirements               |
| 01 88 16        | Selective Construction Performance Requirements             |
| <b>01 89 00</b> | <b>Site Construction Performance Requirements</b>           |
| 01 89 13        | Site Preparation Performance Requirements                   |
| 01 89 16        | Site Improvements Performance Requirements                  |
| 01 89 19        | Site Plumbing Utilities Performance Requirements            |
| 01 89 23        | Site HVAC Utilities Performance Requirements                |
| 01 89 26        | Site Electrical Utilities Performance Requirements          |
| 01 89 29        | Other Site Construction Performance Requirements            |
| <b>01 90 00</b> | <b>Life Cycle Activities</b>                                |
| <b>01 91 00</b> | <b>Commissioning</b>                                        |
| 01 91 13        | General Commissioning Requirements                          |
| 01 91 16        | Facility Substructure Commissioning                         |
| 01 91 16.13     | Foundation Commissioning                                    |
| 01 91 16.53     | Basement Construction Commissioning                         |
| 01 91 19        | Facility Shell Commissioning                                |
| 01 91 19.13     | Superstructure Commissioning                                |
| 01 91 19.43     | Exterior Enclosure Commissioning                            |
| 01 91 19.73     | Roofing Commissioning                                       |
| 01 91 23        | Interiors Commissioning                                     |
| 01 91 23.13     | Interior Construction Commissioning                         |
| 01 91 23.43     | Stairways Commissioning                                     |
| 01 91 23.73     | Interior Finishes Commissioning                             |

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| <b>01 92 00</b> | <b>Facility Operation</b>                                    |
| 01 92 13        | Facility Operation Procedures                                |
| <b>01 93 00</b> | <b>Facility Maintenance</b>                                  |
| 01 93 13        | Facility Maintenance Procedures                              |
| 01 93 16        | Recycling Programs                                           |
| <b>01 94 00</b> | <b>Facility Decommissioning</b>                              |
| 01 94 13        | Facility Decommissioning Procedures                          |
| <b>02 00 00</b> | <b>Existing Conditions</b>                                   |
| <b>02 01 00</b> | <b>Maintenance of Existing Conditions</b>                    |
| 02 01 50        | Maintenance of Site Remediation                              |
| 02 01 65        | Maintenance of Underground Storage Tank Removal              |
| 02 01 80        | Maintenance of Facility Remediation                          |
| 02 01 86        | Maintenance of Hazardous Waste Drum Handling                 |
| <b>02 03 00</b> | <b>Conservation Treatment for Existing Period Conditions</b> |
| 02 03 01        | Maintenance of Existing Period Conditions                    |
| 02 03 01.19     | Mothballing Period Structures                                |
| 02 03 41        | Selective Demolition for Period Structures                   |
| 02 03 42        | Removal and Salvage of Period Construction Materials         |
| 02 03 43        | Period Structure Relocating                                  |
| 02 03 44        | Shoring and Support of Period Structures                     |
| <b>02 05 00</b> | <b>Common Work Results for Existing Conditions</b>           |
| 02 05 19        | Geosynthetics for Existing Conditions                        |
| 02 05 19.13     | Geotextiles for Existing Conditions                          |
| 02 05 19.16     | Geomembranes for Existing Conditions                         |
| 02 05 19.19     | Geogrids for Existing Conditions                             |
| <b>02 06 00</b> | <b>Schedules for Existing Conditions</b>                     |
| 02 06 13        | Geotechnical Baseline Report                                 |
| 02 06 14        | Geotechnical Data Report                                     |
| 02 06 30        | Schedules for Subsurface Investigations                      |
| 02 06 30.13     | Boring or Test Pit Log Schedule                              |
| 02 06 50        | Schedules for Site Remediation                               |
| 02 06 65        | Schedules for Underground Storage Tank Removal               |
| 02 06 80        | Schedules for Facility Remediation                           |
| 02 06 86        | Schedules for Hazardous Waste Drum Handling                  |
| <b>02 08 00</b> | <b>Commissioning of Existing Conditions</b>                  |
| <b>02 20 00</b> | <b>Assessment</b>                                            |
| <b>02 21 00</b> | <b>Surveys</b>                                               |
| 02 21 13        | Site Surveys                                                 |
| 02 21 13.13     | Boundary and Survey Markers                                  |
| 02 21 13.23     | Archeological and Historic Surveys                           |
| 02 21 16        | Measured Drawings                                            |
| <b>02 22 00</b> | <b>Existing Conditions Assessment</b>                        |
| 02 22 13        | Movement and Vibration Assessment                            |
| 02 22 16        | Acoustic Assessment                                          |
| 02 22 19        | Traffic Assessment                                           |
| 02 22 23        | Accessibility Assessment                                     |

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|-----------------|-----------------------------------------------------------|
| <b>02 24 00</b> | <b>Environmental Assessment</b>                           |
| 02 24 13        | Natural Environment Assessment                            |
| 02 24 13.13     | Air Assessment                                            |
| 02 24 13.43     | Water Assessment                                          |
| 02 24 13.73     | Land Assessment                                           |
| 02 24 23        | Chemical Sampling and Analysis of Soils                   |
| 02 24 43        | Transboundary and Global Environmental Aspects Assessment |
| <b>02 25 00</b> | <b>Existing Material Assessment</b>                       |
| 02 25 16        | Existing Concrete Assessment                              |
| 02 25 16.13     | Concrete Assessment Drilling                              |
| 02 25 19        | Existing Masonry Assessment                               |
| 02 25 19.13     | Masonry Assessment Drilling                               |
| 02 25 23        | Existing Metals Assessment                                |
| 02 25 23.13     | Welding Investigations                                    |
| 02 25 26        | Existing Wood, Plastics, and Composites Assessment        |
| 02 25 29        | Existing Thermal and Moisture Protection Assessment       |
| 02 25 29.13     | Waterproofing Investigations                              |
| 02 25 29.23     | Roofing Investigations                                    |
| <b>02 26 00</b> | <b>Hazardous Material Assessment</b>                      |
| 02 26 23        | Asbestos Assessment                                       |
| 02 26 26        | Lead Assessment                                           |
| 02 26 29        | Polychlorinated Biphenyl Assessment                       |
| 02 26 33        | Biological Assessment                                     |
| 02 26 33.13     | Mold Assessment                                           |
| 02 26 36        | Hazardous Waste Drum Assessment                           |
| <b>02 30 00</b> | <b>Subsurface Investigation</b>                           |
| <b>02 31 00</b> | <b>Geophysical Investigations</b>                         |
| 02 31 13        | Seismic Investigations                                    |
| 02 31 16        | Gravity Investigations                                    |
| 02 31 19        | Magnetic Investigations                                   |
| 02 31 23        | Electromagnetic Investigations                            |
| 02 31 26        | Electrical Resistivity Investigations                     |
| 02 31 29        | Magnetotelluric Investigations                            |
| <b>02 32 00</b> | <b>Geotechnical Investigations</b>                        |
| 02 32 13        | Subsurface Drilling and Sampling                          |
| 02 32 16        | Material Testing                                          |
| 02 32 19        | Exploratory Excavations                                   |
| 02 32 23        | Geotechnical Monitoring Before Construction               |
| 02 32 23.13     | Groundwater Monitoring Before Construction                |
| <b>02 40 00</b> | <b>Demolition and Structure Moving</b>                    |
| <b>02 41 00</b> | <b>Demolition</b>                                         |
| 02 41 13        | Selective Site Demolition                                 |
| 02 41 13.13     | Paving Removal                                            |
| 02 41 13.23     | Utility Line Removal                                      |
| 02 41 13.33     | Railtrack Removal                                         |
| 02 41 16        | Structure Demolition                                      |
| 02 41 16.13     | Building Demolition                                       |
| 02 41 16.23     | Tower Demolition                                          |
| 02 41 16.33     | Bridge Demolition                                         |

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|-----------------|---------------------------------------------------------------|
| 02 41 16.43     | Dam Demolition                                                |
| 02 41 19        | Selective Demolition                                          |
| 02 41 19.13     | Selective Building Demolition                                 |
| 02 41 19.16     | Selective Interior Demolition                                 |
| 02 41 19.19     | Selective Facility Services Demolition                        |
| 02 41 19.33     | Selective Bridge Demolition                                   |
| <b>02 42 00</b> | <b>Removal and Salvage of Construction Materials</b>          |
| 02 42 13        | Deconstruction of Structures                                  |
| 02 42 13.13     | Deconstruction of Buildings                                   |
| <b>02 43 00</b> | <b>Structure Moving</b>                                       |
| 02 43 13        | Structure Relocation                                          |
| 02 43 13.13     | Building Relocation                                           |
| 02 43 16        | Structure Raising                                             |
| 02 43 16.13     | Building Raising                                              |
| <b>02 50 00</b> | <b>Site Remediation</b>                                       |
| <b>02 51 00</b> | <b>Physical Decontamination</b>                               |
| 02 51 13        | Coagulation and Flocculation Decontamination                  |
| 02 51 16        | Reverse-Osmosis Decontamination                               |
| 02 51 19        | Solidification and Stabilization Decontamination              |
| 02 51 23        | Mechanical Filtration Decontamination                         |
| 02 51 26        | Radioactive Decontamination                                   |
| 02 51 29        | Surface Cleaning Decontamination                              |
| 02 51 29.13     | High-Pressure Water Cleaning Decontamination                  |
| 02 51 29.16     | Vacuum Sweeping Cleaning Decontamination                      |
| 02 51 33        | Surface Removal Decontamination                               |
| 02 51 33.13     | Surface Removal Decontamination by Grinding                   |
| 02 51 33.16     | Surface Removal Decontamination by Sand Blasting              |
| 02 51 33.19     | Surface Removal Decontamination by Ultrasound                 |
| <b>02 52 00</b> | <b>Chemical Decontamination</b>                               |
| 02 52 13        | Chemical Precipitation Decontamination                        |
| 02 52 16        | Ion Change Decontamination                                    |
| 02 52 19        | Neutralization Decontamination                                |
| <b>02 53 00</b> | <b>Thermal Decontamination</b>                                |
| 02 53 13        | Incineration Decontamination                                  |
| 02 53 13.13     | Remediation of Contaminated Soils and Sludges by Incineration |
| 02 53 16        | Thermal Desorption Decontamination                            |
| 02 53 16.13     | Remediation of Contaminated Soils by Thermal Desorption       |
| 02 53 19        | Vitrification Decontamination                                 |
| <b>02 54 00</b> | <b>Biological Decontamination</b>                             |
| 02 54 13        | Aerobic Processes Decontamination                             |
| 02 54 16        | Anaerobic Processes Decontamination                           |
| 02 54 19        | Bioremediation Decontamination                                |
| 02 54 19.13     | Bioremediation Using Landfarming                              |
| 02 54 19.16     | Bioremediation of Soils Using Windrow Composting              |
| 02 54 19.19     | Bioremediation Using Bacteria Injection                       |
| 02 54 23        | Soil Washing through Separation/Solubilization                |
| 02 54 26        | Organic Decontamination                                       |
| <b>02 55 00</b> | <b>Remediation Soil Stabilization</b>                         |
| <b>02 56 00</b> | <b>Site Containment</b>                                       |
| 02 56 13        | Waste Containment                                             |



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|-----------------|---------------------------------------------------------------------|
| 02 56 13.13     | Geomembrane Waste Containment                                       |
| 02 56 19        | Gas Containment                                                     |
| 02 56 19.13     | Fluid-Applied Gas Barrier                                           |
| <b>02 57 00</b> | <b>Sinkhole Remediation</b>                                         |
| 02 57 13        | Sinkhole Remediation by Grouting                                    |
| 02 57 13.13     | Sinkhole Remediation by Compaction Grouting                         |
| 02 57 13.16     | Sinkhole Remediation by Cap Grouting                                |
| 02 57 16        | Sinkhole Remediation by Backfilling                                 |
| <b>02 58 00</b> | <b>Snow Control</b>                                                 |
| 02 58 13        | Snow Fencing                                                        |
| 02 58 16        | Snow Avalanche Control                                              |
| <b>02 60 00</b> | <b>Contaminated Site Material Removal</b>                           |
| <b>02 61 00</b> | <b>Removal and Disposal of Contaminated Soils</b>                   |
| 02 61 13        | Excavation and Handling of Contaminated Material                    |
| 02 61 23        | Removal and Disposal of Polychlorinate Biphenyl Contaminated Soils  |
| 02 61 26        | Removal and Disposal of Asbestos Contaminated Soils                 |
| 02 61 29        | Removal and Disposal of Organically Contaminated Soils              |
| <b>02 62 00</b> | <b>Hazardous Waste Recovery Processes</b>                           |
| 02 62 13        | Air and Steam Stripping                                             |
| 02 62 16        | Soil Vapor Extraction                                               |
| 02 62 19        | Soil Washing and Flushing                                           |
| <b>02 65 00</b> | <b>Underground Storage Tank Removal</b>                             |
| <b>02 70 00</b> | <b>Water Remediation</b>                                            |
| <b>02 71 00</b> | <b>Groundwater Treatment</b>                                        |
| <b>02 72 00</b> | <b>Water Decontamination</b>                                        |
| 02 72 13        | Chemical Water Decontamination                                      |
| 02 72 16        | Biological Water Decontamination                                    |
| 02 72 19        | Electrolysis Water Decontamination                                  |
| <b>02 80 00</b> | <b>Facility Remediation</b>                                         |
| <b>02 81 00</b> | <b>Transportation and Disposal of Hazardous Materials</b>           |
| <b>02 82 00</b> | <b>Asbestos Remediation</b>                                         |
| 02 82 13        | Asbestos Abatement                                                  |
| 02 82 13.13     | Glovebag Asbestos Abatement                                         |
| 02 82 13.16     | Precautions for Asbestos Abatement                                  |
| 02 82 13.19     | Asbestos Floor Tile and Mastic Abatement                            |
| 02 82 13.33     | Asbestos Abatement for Utilities                                    |
| 02 82 16        | Engineering Control of Asbestos Containing Materials                |
| 02 82 33        | Removal and Disposal of Asbestos Containing Materials               |
| <b>02 83 00</b> | <b>Lead Remediation</b>                                             |
| 02 83 13        | Lead Hazard Control Activities                                      |
| 02 83 19        | Lead-Based Paint Remediation                                        |
| 02 83 19.13     | Lead-Based Paint Abatement                                          |
| 02 83 33        | Removal and Disposal of Material Containing Lead                    |
| 02 83 33.13     | Lead-Based Paint Removal and Disposal                               |
| <b>02 84 00</b> | <b>Polychlorinate Biphenyl Remediation</b>                          |
| 02 84 16        | Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury |
| 02 84 33        | Removal and Disposal of Polychlorinate Biphenyls                    |

**02 86 00 Hazardous Waste Drum Handling****02 87 00 Biohazard Remediation**

- 02 87 13 Mold Remediation
- 02 87 13.13 Precautions for Mold Remediation
- 02 87 13.16 Mold Remediation Preparation and Containment
- 02 87 13.19 Mold Remediation Clearance Air Sampling
- 02 87 13.33 Removal and Disposal of Materials with Mold
- 02 87 16 Excrement Removal
- 02 87 16.13 Bird Excrement Removal
- 02 87 16.16 Rodent Excrement Removal

**03 00 00 Concrete****03 01 00 Maintenance of Concrete**

- 03 01 10 Maintenance of Concrete Forming and Accessories
- 03 01 20 Maintenance of Concrete Reinforcing
- 03 01 23 Maintenance of Stressing Tendons
- 03 01 30 Maintenance of Cast-in-Place Concrete
- 03 01 30.51 Cleaning of Cast-in-Place Concrete
- 03 01 30.61 Resurfacing of Cast-in-Place Concrete
- 03 01 30.71 Rehabilitation of Cast-in-Place Concrete
- 03 01 30.72 Strengthening of Cast-in-Place Concrete
- 03 01 40 Maintenance of Precast Concrete
- 03 01 40.51 Cleaning of Precast Concrete
- 03 01 40.61 Resurfacing of Precast Concrete
- 03 01 40.71 Rehabilitation of Precast Concrete
- 03 01 40.72 Strengthening of Precast Concrete
- 03 01 50 Maintenance of Cast Decks and Underlayment
- 03 01 50.51 Cleaning Cast Decks and Underlayment
- 03 01 50.61 Resurfacing of Cast Decks and Underlayment
- 03 01 50.71 Rehabilitation of Cast Decks and Underlayment
- 03 01 50.72 Strengthening of Cast Decks and Underlayment
- 03 01 60 Maintenance of Grouting
- 03 01 70 Maintenance of Mass Concrete
- 03 01 80 Maintenance of Concrete Cutting and Boring

**03 03 00 Conservation Treatment for Period Concrete**

- 03 03 30 Conservation Treatment for Period Cast-in-Place Concrete
- 03 03 31 Conservation Treatment for Period Structural Concrete
- 03 03 33 Conservation Treatment for Period Architectural Concrete

**03 05 00 Common Work Results for Concrete**

- 03 05 05 Selective Demolition for Concrete

**03 06 00 Schedules for Concrete**

- 03 06 10 Schedules for Concrete Forming and Accessories
- 03 06 20 Schedules for Concrete Reinforcing
- 03 06 20.13 Concrete Beam Reinforcing Schedule
- 03 06 20.16 Concrete Slab Reinforcing Schedule
- 03 06 30 Schedules for Cast-in-Place Concrete
- 03 06 30.13 Concrete Footing Schedule
- 03 06 30.16 Concrete Column Schedule
- 03 06 30.19 Concrete Slab Schedule
- 03 06 30.23 Concrete Shaft Schedule
- 03 06 30.26 Concrete Beam Schedule
- 03 06 40 Schedules for Precast Concrete

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|-----------------|-----------------------------------------------------|
| 03 06 40.13     | Precast Concrete Panel Schedule                     |
| 03 06 50        | Schedules for Cast Decks and Underlayment           |
| 03 06 60        | Schedules for Grouting                              |
| 03 06 70        | Schedules for Mass Concrete                         |
| 03 06 80        | Schedules for Concrete Cutting and Boring           |
| <b>03 08 00</b> | <b>Commissioning of Concrete</b>                    |
| <b>03 10 00</b> | <b>Concrete Forming and Accessories</b>             |
| <b>03 11 00</b> | <b>Concrete Forming</b>                             |
| 03 11 13        | Structural Cast-in-Place Concrete Forming           |
| 03 11 13.13     | Concrete Slip Forming                               |
| 03 11 13.16     | Concrete Shoring                                    |
| 03 11 13.19     | Falsework                                           |
| 03 11 16        | Architectural Cast-in Place Concrete Forming        |
| 03 11 16.13     | Concrete Form Liners                                |
| 03 11 19        | Insulating Concrete Forming                         |
| 03 11 23        | Permanent Stair Forming                             |
| 03 11 26        | Permanent Tier Forming                              |
| <b>03 15 00</b> | <b>Concrete Accessories</b>                         |
| 03 15 13        | Waterstops                                          |
| 03 15 13.13     | Non-Expanding Waterstops                            |
| 03 15 13.16     | Expanding Waterstops                                |
| 03 15 13.19     | Combination Expanding and Injection Hose Waterstops |
| 03 15 13.21     | Injection Hose Waterstops                           |
| 03 15 16        | Concrete Construction Joints                        |
| 03 15 19        | Cast-In Concrete Anchors                            |
| 03 15 21        | Termite Barrier                                     |
| <b>03 20 00</b> | <b>Concrete Reinforcing</b>                         |
| <b>03 21 00</b> | <b>Reinforcement Bars</b>                           |
| 03 21 11        | Plain Steel Reinforcement Bars                      |
| 03 21 13        | Galvanized Reinforcement Steel Bars                 |
| 03 21 16        | Epoxy-Coated Reinforcement Steel Bars               |
| 03 21 19        | Stainless Steel Reinforcement Bars                  |
| 03 21 21        | Composite Reinforcement Bars                        |
| 03 21 21.11     | Glass Fiber-Reinforced Polymer Reinforcement Bars   |
| 03 21 21.13     | Organic Fiber-Reinforced Polymer Reinforcement Bars |
| 03 21 21.16     | Carbon Fiber-Reinforced Polymer Reinforcement Bars  |
| <b>03 22 00</b> | <b>Fabric and Grid Reinforcing</b>                  |
| 03 22 13        | Galvanized Welded Wire Fabric Reinforcing           |
| 03 22 16        | Epoxy-Coated Welded Wire Fabric Reinforcing         |
| 03 22 19        | Composite Grid Reinforcing                          |
| <b>03 23 00</b> | <b>Stressed Tendon Reinforcing</b>                  |
| <b>03 24 00</b> | <b>Fibrous Reinforcing</b>                          |
| <b>03 25 00</b> | <b>Composite Reinforcing</b>                        |
| 03 25 13        | Glass Fiber-Reinforced Polymer Reinforcing          |
| 03 25 16        | Organic Fiber-Reinforced Polymer Reinforcing        |
| 03 25 19        | Carbon Fiber-Reinforced Polymer Reinforcing         |
| <b>03 30 00</b> | <b>Cast-in-Place Concrete</b>                       |
| 03 30 53        | Miscellaneous Cast-in-Place Concrete                |

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|-----------------|--------------------------------------------|
| <b>03 31 00</b> | <b>Structural Concrete</b>                 |
| 03 31 13        | Heavyweight Structural Concrete            |
| 03 31 16        | Lightweight Structural Concrete            |
| 03 31 19        | Shrinkage-Compensating Structural Concrete |
| 03 31 23        | High-Performance Structural Concrete       |
| 03 31 24        | Ultra High-Performance Structural Concrete |
| 03 31 26        | Self-Compacting Concrete                   |
| <b>03 33 00</b> | <b>Architectural Concrete</b>              |
| 03 33 13        | Heavyweight Architectural Concrete         |
| 03 33 16        | Lightweight Architectural Concrete         |
| <b>03 34 00</b> | <b>Low Density Concrete</b>                |
| <b>03 35 00</b> | <b>Concrete Finishing</b>                  |
| 03 35 13        | High-Tolerance Concrete Floor Finishing    |
| 03 35 16        | Heavy-Duty Concrete Floor Finishing        |
| 03 35 19        | Colored Concrete Finishing                 |
| 03 35 23        | Exposed Aggregate Concrete Finishing       |
| 03 35 26        | Grooved Concrete Surface Finishing         |
| 03 35 29        | Tooled Concrete Finishing                  |
| 03 35 33        | Stamped Concrete Finishing                 |
| 03 35 43        | Polished Concrete Finishing                |
| 03 35 43.13     | Polished and Dyed Concrete Finishing       |
| 03 35 43.16     | Polished and Stained Concrete Finishing    |
| 03 35 46        | Concrete Topical Treatments                |
| <b>03 37 00</b> | <b>Specialty Placed Concrete</b>           |
| 03 37 13        | Shotcrete                                  |
| 03 37 16        | Pumped Concrete                            |
| 03 37 19        | Pneumatically Placed Concrete              |
| 03 37 23        | Roller-Compacted Concrete                  |
| 03 37 26        | Underwater Placed Concrete                 |
| <b>03 38 00</b> | <b>Post-Tensioned Concrete</b>             |
| 03 38 13        | Post-Tensioned Concrete Preparation        |
| 03 38 16        | Unbonded Post-Tensioned Concrete           |
| 03 38 19        | Bonded Post-Tensioned Concrete             |
| <b>03 39 00</b> | <b>Concrete Curing</b>                     |
| 03 39 13        | Water Concrete Curing                      |
| 03 39 16        | Sand Concrete Curing                       |
| 03 39 23        | Membrane Concrete Curing                   |
| 03 39 23.13     | Chemical Compound Membrane Concrete Curing |
| 03 39 23.23     | Sheet Membrane Concrete Curing             |
| <b>03 40 00</b> | <b>Precast Concrete</b>                    |
| <b>03 41 00</b> | <b>Precast Structural Concrete</b>         |
| 03 41 13        | Precast Concrete Hollow Core Planks        |
| 03 41 16        | Precast Concrete Slabs                     |
| 03 41 23        | Precast Concrete Stairs                    |
| 03 41 33        | Precast Structural Pretensioned Concrete   |
| 03 41 36        | Precast Structural Post-Tensioned Concrete |
| <b>03 45 00</b> | <b>Precast Architectural Concrete</b>      |
| 03 45 13        | Faced Architectural Precast Concrete       |

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|-----------------|-----------------------------------------------|
| 03 45 33        | Precast Architectural Pretensioned Concrete   |
| 03 45 36        | Precast Architectural Post-Tensioned Concrete |
| <b>03 47 00</b> | <b>Site-Cast Concrete</b>                     |
| 03 47 13        | Tilt-Up Concrete                              |
| 03 47 16        | Lift-Slab Concrete                            |
| <b>03 48 00</b> | <b>Precast Concrete Specialties</b>           |
| 03 48 13        | Precast Concrete Bollards                     |
| 03 48 13.11     | Precast Concrete Security Bollards            |
| 03 48 16        | Precast Concrete Splash Blocks                |
| 03 48 19        | Precast Concrete Stair Treads                 |
| 03 48 26        | Precast Concrete Parking Bumpers              |
| 03 48 33        | Precast Pre-Framed Concrete Panels            |
| 03 48 43        | Precast Concrete Trim                         |
| <b>03 49 00</b> | <b>Glass-Fiber-Reinforced Concrete</b>        |
| 03 49 13        | Glass-Fiber-Reinforced Concrete Column Covers |
| 03 49 16        | Glass-Fiber-Reinforced Concrete Spandrels     |
| 03 49 43        | Glass-Fiber-Reinforced Concrete Trim          |
| <b>03 50 00</b> | <b>Cast Decks and Underlayment</b>            |
| <b>03 51 00</b> | <b>Cast Roof Decks</b>                        |
| 03 51 13        | Cementitious Wood Fiber Decks                 |
| 03 51 16        | Gypsum Concrete Roof Decks                    |
| <b>03 52 00</b> | <b>Lightweight Concrete Roof Insulation</b>   |
| 03 52 13        | Composite Concrete Roof Insulation            |
| 03 52 16        | Lightweight Insulating Concrete               |
| 03 52 16.13     | Lightweight Cellular Insulating Concrete      |
| 03 52 16.16     | Lightweight Aggregate Insulating Concrete     |
| <b>03 53 00</b> | <b>Concrete Topping</b>                       |
| 03 53 13        | Emery-Aggregate Concrete Topping              |
| 03 53 16        | Iron-Aggregate Concrete Topping               |
| 03 53 19        | Concrete Overlayment                          |
| <b>03 54 00</b> | <b>Cast Underlayment</b>                      |
| 03 54 13        | Gypsum Cement Underlayment                    |
| 03 54 16        | Hydraulic Cement Underlayment                 |
| <b>03 60 00</b> | <b>Grouting</b>                               |
| <b>03 61 00</b> | <b>Cementitious Grouting</b>                  |
| 03 61 13        | Dry-Pack Grouting                             |
| <b>03 62 00</b> | <b>Non-Shrink Grouting</b>                    |
| 03 62 13        | Non-Metallic Non-Shrink Grouting              |
| 03 62 16        | Metallic Non-Shrink Grouting                  |
| <b>03 63 00</b> | <b>Epoxy Grouting</b>                         |
| <b>03 64 00</b> | <b>Injection Grouting</b>                     |
| 03 64 23        | Epoxy Injection Grouting                      |
| <b>03 70 00</b> | <b>Mass Concrete</b>                          |
| <b>03 71 00</b> | <b>Mass Concrete for Raft Foundations</b>     |
| <b>03 72 00</b> | <b>Mass Concrete for Dams</b>                 |

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|-----------------|---------------------------------------------------------|
| <b>03 80 00</b> | <b>Concrete Cutting and Boring</b>                      |
| <b>03 81 00</b> | <b>Concrete Cutting</b>                                 |
| 03 81 13        | Flat Concrete Sawing                                    |
| 03 81 16        | Track Mounted Concrete Wall Sawing                      |
| 03 81 19        | Wire Concrete Wall Sawing                               |
| 03 81 23        | Hand Concrete Wall Sawing                               |
| 03 81 26        | Chain Concrete Wall Sawing                              |
| <b>03 82 00</b> | <b>Concrete Boring</b>                                  |
| 03 82 13        | Concrete Core Drilling                                  |
| <b>04 00 00</b> | <b>Masonry</b>                                          |
| <b>04 01 00</b> | <b>Maintenance of Masonry</b>                           |
| 04 01 20        | Maintenance of Unit Masonry                             |
| 04 01 20.41     | Unit Masonry Stabilization                              |
| 04 01 20.51     | Unit Masonry Maintenance                                |
| 04 01 20.52     | Unit Masonry Cleaning                                   |
| 04 01 20.91     | Unit Masonry Restoration                                |
| 04 01 20.93     | Testing and Sampling Brick Units for Restoration        |
| 04 01 40        | Maintenance of Stone Assemblies                         |
| 04 01 40.51     | Stone Maintenance                                       |
| 04 01 40.52     | Stone Cleaning                                          |
| 04 01 40.91     | Stone Restoration                                       |
| 04 01 50        | Maintenance of Refractory Masonry                       |
| 04 01 60        | Maintenance of Corrosion-Resistant Masonry              |
| 04 01 70        | Maintenance of Manufactured Masonry                     |
| <b>04 03 00</b> | <b>Conservation Treatment for Period Masonry</b>        |
| 04 03 01        | Maintenance for Period Masonry                          |
| 04 03 01.13     | Period Masonry Cleaning                                 |
| 04 03 05        | Common Work Results for Period Masonry                  |
| 04 03 05.13     | Period Masonry Mortaring                                |
| 04 03 05.16     | Period Masonry Grouting                                 |
| 04 03 05.19     | Period Masonry Anchorage and Reinforcing                |
| 04 03 21        | Conservation Treatment for Period Clay Unit Masonry     |
| 04 03 21.19     | Clay Brick Conservation Treatment                       |
| 04 03 21.21     | Terra Cotta Conservation Treatment                      |
| 04 03 21.23     | Fiance Block Conservation Treatment                     |
| 04 03 22        | Conservation Treatment for Period Concrete Unit Masonry |
| 04 03 24        | Conservation Treatment for Period Adobe Unit Masonry    |
| 04 03 43        | Conservation Treatment for Period Stone Masonry         |
| <b>04 05 00</b> | <b>Common Work Results for Masonry</b>                  |
| 04 05 05        | Selective Demolition for Masonry                        |
| 04 05 13        | Masonry Mortaring                                       |
| 04 05 13.16     | Chemical-Resistant Masonry Mortaring                    |
| 04 05 13.19     | Epoxy Masonry Mortaring                                 |
| 04 05 13.23     | Surface Bonding Masonry Mortaring                       |
| 04 05 13.26     | Engineered Masonry Mortaring                            |
| 04 05 13.29     | Refractory Masonry Mortaring                            |
| 04 05 13.91     | Masonry Restoration Mortaring                           |
| 04 05 16        | Masonry Grouting                                        |
| 04 05 16.16     | Chemical-Resistant Masonry Grouting                     |
| 04 05 16.26     | Engineered Masonry Grouting                             |

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|-----------------|-----------------------------------------------|
| 04 05 19        | Masonry Anchorage and Reinforcing             |
| 04 05 19.13     | Continuous Joint Reinforcing                  |
| 04 05 19.16     | Masonry Anchors                               |
| 04 05 19.26     | Masonry Reinforcing Bars                      |
| 04 05 19.29     | Stone Anchors                                 |
| 04 05 21        | Masonry Strengthening                         |
| 04 05 23        | Masonry Accessories                           |
| 04 05 23.13     | Masonry Control and Expansion Joints          |
| 04 05 23.16     | Masonry Embedded Flashing                     |
| 04 05 23.19     | Masonry Cavity Drainage, Weepholes, and Vents |
| <b>04 06 00</b> | <b>Schedules for Masonry</b>                  |
| 04 06 20        | Schedules for Unit Masonry                    |
| 04 06 20.13     | Masonry Unit Schedule                         |
| 04 06 40        | Schedules for Stone Assemblies                |
| 04 06 50        | Schedules for Refractory Masonry              |
| 04 06 60        | Schedules for Corrosion-Resistant Masonry     |
| 04 06 70        | Schedules for Manufactured Masonry            |
| <b>04 08 00</b> | <b>Commissioning of Masonry</b>               |
| <b>04 20 00</b> | <b>Unit Masonry</b>                           |
| <b>04 21 00</b> | <b>Clay Unit Masonry</b>                      |
| 04 21 13        | Brick Masonry                                 |
| 04 21 13.13     | Brick Veneer Masonry                          |
| 04 21 13.23     | Surface-Bonded Brick Masonry                  |
| 04 21 16        | Ceramic Glazed Clay Masonry                   |
| 04 21 19        | Clay Tile Masonry                             |
| 04 21 23        | Structural Clay Tile Masonry                  |
| 04 21 26        | Glazed Structural Clay Tile Masonry           |
| 04 21 29        | Terra Cotta Masonry                           |
| <b>04 22 00</b> | <b>Concrete Unit Masonry</b>                  |
| 04 22 00.13     | Concrete Unit Veneer Masonry                  |
| 04 22 00.16     | Surface-Bonded Concrete Unit Masonry          |
| 04 22 19        | Insulated Concrete Unit Masonry               |
| 04 22 23        | Architectural Concrete Unit Masonry           |
| 04 22 23.13     | Exposed Aggregate Concrete Unit Masonry       |
| 04 22 23.16     | Fluted Concrete Unit Masonry                  |
| 04 22 23.19     | Molded-Face Concrete Unit Masonry             |
| 04 22 23.23     | Prefaced Concrete Unit Masonry                |
| 04 22 23.26     | Sound-Absorbing Concrete Unit Masonry         |
| 04 22 23.29     | Split-Face Concrete Unit Masonry              |
| 04 22 26        | Autoclaved Aerated Concrete Unit Masonry      |
| 04 22 33        | Interlocking Concrete Unit Masonry            |
| <b>04 23 00</b> | <b>Glass Unit Masonry</b>                     |
| 04 23 13        | Vertical Glass Unit Masonry                   |
| 04 23 16        | Glass Unit Masonry Floors                     |
| 04 23 19        | Glass Unit Masonry Skylights                  |
| <b>04 24 00</b> | <b>Adobe Unit Masonry</b>                     |
| 04 24 13        | Site-Cast Adobe Unit Masonry                  |
| 04 24 16        | Manufactured Adobe Unit Masonry               |
| <b>04 25 00</b> | <b>Unit Masonry Panels</b>                    |
| 04 25 13        | Metal-Supported Unit Masonry Panels           |

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|-----------------|---------------------------------------------|
| <b>04 26 00</b> | <b>Single-Wythe Unit Masonry</b>            |
| 04 26 13        | Masonry Veneer                              |
| <b>04 27 00</b> | <b>Multiple-Wythe Unit Masonry</b>          |
| 04 27 13        | Composite Unit Masonry                      |
| 04 27 23        | Cavity Wall Unit Masonry                    |
| <b>04 28 00</b> | <b>Concrete Form Masonry Units</b>          |
| 04 28 13        | Dry-Stacked, Concrete-Filled Masonry Units  |
| 04 28 23        | Mortar-Set, Concrete-Filled Masonry Units   |
| <b>04 29 00</b> | <b>Engineered Unit Masonry</b>              |
| <b>04 40 00</b> | <b>Stone Assemblies</b>                     |
| <b>04 41 00</b> | <b>Dry-Placed Stone</b>                     |
| <b>04 42 00</b> | <b>Exterior Stone Cladding</b>              |
| 04 42 13        | Masonry-Supported Stone Cladding            |
| 04 42 16        | Steel-Stud-Supported Stone Cladding         |
| 04 42 19        | Strongback-Frame-Supported Stone Cladding   |
| 04 42 23        | Truss-Supported Stone Cladding              |
| 04 42 26        | Grid-System-Supported Stone Cladding        |
| 04 42 43        | Stone Panels for Curtain Walls              |
| <b>04 43 00</b> | <b>Stone Masonry</b>                        |
| 04 43 13        | Stone Masonry Veneer                        |
| 04 43 13.13     | Anchored Stone Masonry Veneer               |
| 04 43 13.16     | Adhered Stone Masonry Veneer                |
| 04 43 16        | Stone Fabrications                          |
| <b>04 50 00</b> | <b>Refractory Masonry</b>                   |
| <b>04 51 00</b> | <b>Flue Liner Masonry</b>                   |
| <b>04 52 00</b> | <b>Combustion Chamber Masonry</b>           |
| <b>04 53 00</b> | <b>Castable Refractory Masonry</b>          |
| <b>04 54 00</b> | <b>Refractory Brick Masonry</b>             |
| <b>04 57 00</b> | <b>Masonry Fireplaces</b>                   |
| 04 57 33        | Modular Masonry Fireplaces                  |
| <b>04 60 00</b> | <b>Corrosion-Resistant Masonry</b>          |
| <b>04 61 00</b> | <b>Chemical-Resistant Brick Masonry</b>     |
| <b>04 62 00</b> | <b>Vitrified Clay Liner Plate</b>           |
| <b>04 70 00</b> | <b>Manufactured Masonry</b>                 |
| <b>04 71 00</b> | <b>Manufactured Brick Masonry</b>           |
| 04 71 13        | Calcium Silicate Manufactured Brick Masonry |
| <b>04 72 00</b> | <b>Cast Stone Masonry</b>                   |
| <b>04 73 00</b> | <b>Manufactured Stone Masonry</b>           |
| 04 73 13        | Calcium Silicate Manufactured Stone Masonry |
| <b>05 00 00</b> | <b>Metals</b>                               |
| <b>05 01 00</b> | <b>Maintenance of Metals</b>                |
| 05 01 10        | Maintenance of Structural Metal Framing     |
| 05 01 20        | Maintenance of Metal Joists                 |



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|-----------------|------------------------------------------------------------------|
| 05 01 30        | Maintenance of Metal Decking                                     |
| 05 01 40        | Maintenance of Cold-Formed Metal Framing                         |
| 05 01 50        | Maintenance of Metal Fabrications                                |
| 05 01 70        | Maintenance of Decorative Metal                                  |
| 05 01 70.91     | Historic Treatment of Decorative Metal                           |
| <b>05 03 00</b> | <b>Conservation Treatment for Period Metals</b>                  |
| 05 03 12        | Conservation Treatment for Period Structural Steel               |
| 05 03 12.13     | Conservation Treatment for Period Architecturally Exposed Steel  |
| 05 03 12.23     | Conservation Treatment for Period Structural Steel for Buildings |
| 05 03 51        | Conservation Treatment for Period Metal Stairs                   |
| 05 03 58        | Conservation Treatment for Period Column Covers                  |
| 05 03 70        | Conservation Treatment for Period Decorative Metal               |
| 05 03 71        | Conservation Treatment for Period Decorative Metal Stairs        |
| 05 03 73        | Conservation Treatment for Period Decorative Metal Railings      |
| 05 03 75        | Conservation Treatment for Period Decorative Formed Metal        |
| 05 03 76        | Conservation Treatment for Period Decorative Forged Metal        |
| <b>05 05 00</b> | <b>Common Work Results for Metals</b>                            |
| 05 05 05        | Selective Demolition for Metals                                  |
| 05 05 13        | Shop-Applied Coatings for Metal                                  |
| 05 05 19        | Post-Installed Concrete Anchors                                  |
| 05 05 23        | Metal Fastenings                                                 |
| 05 05 53        | Security Metal Fastenings                                        |
| <b>05 06 00</b> | <b>Schedules for Metals</b>                                      |
| 05 06 10        | Schedules for Structural Metal Framing                           |
| 05 06 10.13     | Steel Column Schedule                                            |
| 05 06 10.16     | Steel Beam Schedule                                              |
| 05 06 20        | Schedules for Metal Joists                                       |
| 05 06 20.13     | Steel Joist Schedule                                             |
| 05 06 30        | Schedules for Metal Decking                                      |
| 05 06 40        | Schedules for Cold-Formed Metal Framing                          |
| 05 06 50        | Schedules for Metal Fabrications                                 |
| 05 06 70        | Schedules for Decorative Metal                                   |
| <b>05 08 00</b> | <b>Commissioning of Metals</b>                                   |
| <b>05 10 00</b> | <b>Structural Metal Framing</b>                                  |
| <b>05 12 00</b> | <b>Structural Steel Framing</b>                                  |
| 05 12 13        | Architecturally-Exposed Structural Steel Framing                 |
| 05 12 16        | Fabricated Fireproofed Steel Columns                             |
| 05 12 19        | Buckling Restrained Braces                                       |
| 05 12 23        | Structural Steel for Buildings                                   |
| 05 12 33        | Structural Steel for Bridges                                     |
| <b>05 13 00</b> | <b>Structural Stainless-Steel Framing</b>                        |
| <b>05 14 00</b> | <b>Structural Aluminum Framing</b>                               |
| 05 14 13        | Architecturally-Exposed Structural Aluminum Framing              |
| <b>05 15 00</b> | <b>Wire Rope Assemblies</b>                                      |
| 05 15 13        | Aluminum Wire Rope Assemblies                                    |
| 05 15 16        | Steel Wire Rope Assemblies                                       |
| 05 15 19        | Stainless-Steel Wire Rope Assemblies                             |
| <b>05 16 00</b> | <b>Structural Cabling</b>                                        |

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|-----------------|-----------------------------------------------|
| 05 16 13        | Cable Bow Truss Assemblies                    |
| 05 16 33        | Bridge Cabling                                |
| <b>05 17 00</b> | <b>Structural Rod Assemblies</b>              |
| <b>05 19 00</b> | <b>Tension Rod and Cable Truss Assemblies</b> |
| 05 19 13        | Façade Support Truss Assemblies               |
| 05 19 19        | Canopy Support Truss Assemblies               |
| <b>05 20 00</b> | <b>Metal Joists</b>                           |
| <b>05 21 00</b> | <b>Steel Joist Framing</b>                    |
| 05 21 13        | Deep Longspan Steel Joist Framing             |
| 05 21 16        | Longspan Steel Joist Framing                  |
| 05 21 19        | Open Web Steel Joist Framing                  |
| 05 21 23        | Steel Joist Girder Framing                    |
| <b>05 25 00</b> | <b>Aluminum Joist Framing</b>                 |
| <b>05 30 00</b> | <b>Metal Decking</b>                          |
| <b>05 31 00</b> | <b>Steel Decking</b>                          |
| 05 31 13        | Steel Floor Decking                           |
| 05 31 23        | Steel Roof Decking                            |
| 05 31 33        | Steel Form Decking                            |
| <b>05 33 00</b> | <b>Aluminum Decking</b>                       |
| 05 33 13        | Aluminum Floor Decking                        |
| 05 33 23        | Aluminum Roof Decking                         |
| <b>05 34 00</b> | <b>Acoustical Metal Decking</b>               |
| <b>05 35 00</b> | <b>Raceway Decking Assemblies</b>             |
| <b>05 36 00</b> | <b>Composite Metal Decking</b>                |
| 05 36 13        | Composite Steel Plate and Elastomer Decking   |
| <b>05 40 00</b> | <b>Cold-Formed Metal Framing</b>              |
| <b>05 41 00</b> | <b>Structural Metal Stud Framing</b>          |
| <b>05 42 00</b> | <b>Cold-Formed Metal Joist Framing</b>        |
| 05 42 13        | Cold-Formed Metal Floor Joist Framing         |
| 05 42 23        | Cold-Formed Metal Roof Joist Framing          |
| <b>05 43 00</b> | <b>Slotted Channel Framing</b>                |
| <b>05 44 00</b> | <b>Cold-Formed Metal Trusses</b>              |
| 05 44 13        | Cold-Formed Metal Roof Trusses                |
| <b>05 45 00</b> | <b>Metal Support Assemblies</b>               |
| 05 45 13        | Mechanical Metal Supports                     |
| 05 45 16        | Electrical Metal Supports                     |
| 05 45 19        | Communications Metal Supports                 |
| 05 45 23        | Healthcare Metal Supports                     |
| <b>05 50 00</b> | <b>Metal Fabrications</b>                     |
| <b>05 51 00</b> | <b>Metal Stairs</b>                           |
| 05 51 13        | Metal Pan Stairs                              |
| 05 51 16        | Metal Floor Plate Stairs                      |
| 05 51 17        | Alternating Tread Stairs                      |
| 05 51 19        | Metal Grating Stairs                          |

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|-----------------|------------------------------------------------------|
| 05 51 23        | Metal Fire Escapes                                   |
| 05 51 33        | Metal Ladders                                        |
| 05 51 33.13     | Vertical Metal Ladders                               |
| 05 51 33.16     | Inclined Metal Ladders                               |
| 05 51 33.23     | Alternating Tread Ladders                            |
| 05 51 36        | Metal Walkways                                       |
| 05 51 36.13     | Metal Catwalks                                       |
| 05 51 36.16     | Metal Ramps                                          |
| 05 51 36.19     | Metal Platforms                                      |
| <b>05 52 00</b> | <b>Metal Railings</b>                                |
| 05 52 13        | Pipe and Tube Railings                               |
| <b>05 53 00</b> | <b>Metal Gratings</b>                                |
| 05 53 13        | Bar Gratings                                         |
| 05 53 16        | Plank Gratings                                       |
| 05 53 19        | Expanded Metal Gratings                              |
| <b>05 54 00</b> | <b>Metal Floor Plates</b>                            |
| <b>05 55 00</b> | <b>Metal Stair Treads and Nosings</b>                |
| 05 55 13        | Metal Stair Treads                                   |
| 05 55 16        | Metal Stair Nosings                                  |
| <b>05 56 00</b> | <b>Metal Castings</b>                                |
| <b>05 58 00</b> | <b>Formed Metal Fabrications</b>                     |
| 05 58 13        | Column Covers                                        |
| 05 58 16        | Formed Metal Enclosures                              |
| 05 58 19        | Heating/Cooling Unit Covers                          |
| 05 58 23        | Formed Metal Guards                                  |
| <b>05 59 00</b> | <b>Metal Specialties</b>                             |
| 05 59 13        | Metal Balconies                                      |
| 05 59 63        | Detention Enclosures                                 |
| <b>05 70 00</b> | <b>Decorative Metal</b>                              |
| <b>05 71 00</b> | <b>Decorative Metal Stairs</b>                       |
| 05 71 13        | Fabricated Metal Spiral Stairs                       |
| <b>05 73 00</b> | <b>Decorative Metal Railings</b>                     |
| 05 73 13        | Glazed Decorative Metal Railings                     |
| 05 73 16        | Wire Rope Decorative Metal Railings                  |
| <b>05 74 00</b> | <b>Decorative Metal Castings</b>                     |
| <b>05 75 00</b> | <b>Decorative Formed Metal</b>                       |
| <b>05 76 00</b> | <b>Decorative Forged Metal</b>                       |
| <b>05 77 00</b> | <b>Decorative Extruded Metal</b>                     |
| <b>06 00 00</b> | <b>Wood, Plastics, and Composites</b>                |
| <b>06 01 00</b> | <b>Maintenance of Wood, Plastics, and Composites</b> |
| 06 01 10        | Maintenance of Rough Carpentry                       |
| 06 01 10.71     | Rough Carpentry Rehabilitation                       |
| 06 01 10.91     | Rough Carpentry Restoration                          |
| 06 01 10.92     | Rough Carpentry Preservation                         |
| 06 01 20        | Maintenance of Finish Carpentry                      |
| 06 01 20.71     | Finish Carpentry Rehabilitation                      |

|             |                                       |
|-------------|---------------------------------------|
| 06 01 20.91 | Finish Carpentry Restoration          |
| 06 01 20.92 | Finish Carpentry Preservation         |
| 06 01 40    | Maintenance of Architectural Woodwork |
| 06 01 40.51 | Architectural Woodwork Cleaning       |
| 06 01 40.61 | Architectural Woodwork Refinishing    |
| 06 01 40.91 | Architectural Woodwork Restoration    |
| 06 01 50    | Maintenance of Structural Plastics    |
| 06 01 60    | Maintenance of Plastic Fabrications   |
| 06 01 60.51 | Plastic Cleaning                      |
| 06 01 60.71 | Plastic Rehabilitation                |
| 06 01 60.91 | Plastic Restoration                   |
| 06 01 60.92 | Plastic Preservation                  |
| 06 01 70    | Maintenance of Structural Composites  |
| 06 01 80    | Maintenance of Composite Assemblies   |
| 06 01 80.51 | Composite Cleaning                    |
| 06 01 80.71 | Composite Rehabilitation              |
| 06 01 80.91 | Composite Restoration                 |
| 06 01 80.92 | Composite Preservation                |

## **06 03 00 Conservation Treatment for Period Wood**

|             |                                                          |
|-------------|----------------------------------------------------------|
| 06 03 01    | Maintenance for Period Wood                              |
| 06 03 01.31 | Period Wood Storage and Protection                       |
| 06 03 05    | Common Work Results for Period Wood                      |
| 06 03 05.73 | Long-term Period Wood Treatment                          |
| 06 03 05.74 | Eradication of Insects in Period Wood                    |
| 06 03 05.75 | Antiseptic Treatment of Period Wood                      |
| 06 03 13    | Conservation Treatment of Period Log Construction        |
| 06 03 13.23 | Conservation Treatment for Period Heavy Timber           |
| 06 03 20    | Conservation Treatment for Period Finish Carpentry       |
| 06 03 20.13 | Period Exterior Finish Carpentry                         |
| 06 03 20.23 | Period Interior Finish Carpentry                         |
| 06 03 40    | Conservation Treatment for Period Architectural Woodwork |
| 06 03 40.13 | Period Exterior Architectural Woodwork                   |
| 06 03 40.23 | Period Interior Architectural Woodwork                   |

## **06 05 00 Common Work Results for Wood, Plastics, and Composites**

|             |                                                         |
|-------------|---------------------------------------------------------|
| 06 05 05    | Selective Demolition for Wood, Plastics, and Composites |
| 06 05 23    | Wood, Plastic, and Composite Fastenings                 |
| 06 05 73    | Wood Treatment                                          |
| 06 05 73.13 | Fire-Retardant Wood Treatment                           |
| 06 05 73.33 | Preservative Wood Treatment                             |
| 06 05 73.91 | Long-Term Wood Treatment                                |
| 06 05 73.93 | Eradication of Insects in Wood                          |
| 06 05 73.96 | Antiseptic Treatment of Wood                            |
| 06 05 83    | Shop-Applied Wood Coatings                              |

## **06 06 00 Schedules for Wood, Plastics, and Composites**

|             |                                      |
|-------------|--------------------------------------|
| 06 06 10    | Schedules for Rough Carpentry        |
| 06 06 10.13 | Nailing Schedule                     |
| 06 06 10.16 | Wood Beam Schedule                   |
| 06 06 10.19 | Plywood Shear Wall Schedule          |
| 06 06 10.23 | Plywood Web Joist Schedule           |
| 06 06 10.26 | Wood Truss Schedule                  |
| 06 06 20    | Schedules for Finish Carpentry       |
| 06 06 40    | Schedules for Architectural Woodwork |

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| 06 06 50        | Schedules for Structural Plastics                      |
| 06 06 60        | Schedules for Plastic Fabrications                     |
| 06 06 70        | Schedules for Structural Composites                    |
| 06 06 80        | Schedules for Composite Assemblies                     |
| <b>06 08 00</b> | <b>Commissioning of Wood, Plastics, and Composites</b> |
| <b>06 10 00</b> | <b>Rough Carpentry</b>                                 |
| 06 10 53        | Miscellaneous Rough Carpentry                          |
| 06 10 63        | Exterior Rough Carpentry                               |
| <b>06 11 00</b> | <b>Wood Framing</b>                                    |
| 06 11 13        | Engineered Wood Products                               |
| 06 11 16        | Mechanically Graded Lumber                             |
| <b>06 12 00</b> | <b>Structural Panels</b>                               |
| 06 12 13        | Cementitious Reinforced Panels                         |
| 06 12 16        | Stressed Skin Panels                                   |
| <b>06 13 00</b> | <b>Heavy Timber Construction</b>                       |
| 06 13 13        | Log Construction                                       |
| 06 13 13.91     | Period Horizontal Log Work                             |
| 06 13 16        | Pole Construction                                      |
| 06 13 23        | Heavy Timber Framing                                   |
| 06 13 26        | Heavy Timber Trusses                                   |
| 06 13 33        | Heavy Timber Pier Construction                         |
| <b>06 14 00</b> | <b>Treated Wood Foundations</b>                        |
| <b>06 15 00</b> | <b>Wood Decking</b>                                    |
| 06 15 13        | Wood Floor Decking                                     |
| 06 15 13.91     | Carvel Planking                                        |
| 06 15 16        | Wood Roof Decking                                      |
| 06 15 19        | Timber Decking                                         |
| 06 15 23        | Laminated Wood Decking                                 |
| 06 15 33        | Wood Patio Decking                                     |
| <b>06 16 00</b> | <b>Sheathing</b>                                       |
| 06 16 13        | Insulating Sheathing                                   |
| 06 16 23        | Subflooring                                            |
| 06 16 26        | Underlayment                                           |
| 06 16 33        | Wood Board Sheathing                                   |
| 06 16 36        | Wood Panel Product Sheathing                           |
| 06 16 43        | Gypsum Sheathing                                       |
| 06 16 53        | Moisture-Resistant Sheathing Board                     |
| 06 16 63        | Cementitious Sheathing                                 |
| <b>06 17 00</b> | <b>Shop-Fabricated Structural Wood</b>                 |
| 06 17 13        | Laminated Veneer Lumber                                |
| 06 17 19        | Cross-Laminated Timber                                 |
| 06 17 23        | Parallel Strand Lumber                                 |
| 06 17 33        | Wood I-Joists                                          |
| 06 17 36        | Metal-Web Wood Joists                                  |
| 06 17 43        | Rim Boards                                             |
| 06 17 53        | Shop-Fabricated Wood Trusses                           |
| <b>06 18 00</b> | <b>Glued-Laminated Construction</b>                    |
| 06 18 13        | Glued-Laminated Beams                                  |

|                 |                                              |
|-----------------|----------------------------------------------|
| 06 18 16        | Glued-Laminated Columns                      |
| <b>06 20 00</b> | <b>Finish Carpentry</b>                      |
| 06 20 13        | Exterior Finish Carpentry                    |
| 06 20 23        | Interior Finish Carpentry                    |
| <b>06 22 00</b> | <b>Millwork</b>                              |
| 06 22 13        | Standard Pattern Wood Trim                   |
| <b>06 25 00</b> | <b>Prefinished Paneling</b>                  |
| 06 25 13        | Prefinished Hardboard Paneling               |
| 06 25 16        | Prefinished Plywood Paneling                 |
| <b>06 26 00</b> | <b>Board Paneling</b>                        |
| 06 26 13        | Profile Board Paneling                       |
| <b>06 40 00</b> | <b>Architectural Woodwork</b>                |
| 06 40 13        | Exterior Architectural Woodwork              |
| 06 40 23        | Interior Architectural Woodwork              |
| <b>06 41 00</b> | <b>Architectural Wood Casework</b>           |
| 06 41 13        | Wood-Veneer-Faced Architectural Cabinets     |
| 06 41 16        | Plastic-Laminate-Clad Architectural Cabinets |
| 06 41 93        | Cabinet and Drawer Hardware                  |
| <b>06 42 00</b> | <b>Wood Paneling</b>                         |
| 06 42 13        | Wood Board Paneling                          |
| 06 42 14        | Stile and Rail Wood Paneling                 |
| 06 42 16        | Flush Wood Paneling                          |
| 06 42 19        | Plastic-Laminate-Faced Wood Paneling         |
| <b>06 43 00</b> | <b>Wood Stairs and Railings</b>              |
| 06 43 13        | Wood Stairs                                  |
| 06 43 16        | Wood Railings                                |
| <b>06 44 00</b> | <b>Ornamental Woodwork</b>                   |
| 06 44 13        | Wood Turnings                                |
| 06 44 16        | Wood Pilasters                               |
| 06 44 19        | Wood Grilles                                 |
| 06 44 23        | Wood Corbels                                 |
| 06 44 26        | Wood Cupolas                                 |
| 06 44 29        | Wood Finials                                 |
| 06 44 33        | Wood Mantels                                 |
| 06 44 36        | Wood Pediment Heads                          |
| 06 44 39        | Wood Posts and Columns                       |
| <b>06 46 00</b> | <b>Wood Trim</b>                             |
| 06 46 13        | Wood Door and Window Casings                 |
| 06 46 16        | Wood Aprons                                  |
| 06 46 19        | Wood Base and Shoe Moldings                  |
| 06 46 23        | Wood Chair Rails                             |
| 06 46 26        | Wood Cornices                                |
| 06 46 29        | Wood Fasciae and Soffits                     |
| 06 46 33        | Wood Stops, Stools, and Sills                |
| 06 46 91        | Splicing of Wooden Components                |
| <b>06 48 00</b> | <b>Wood Frames</b>                           |
| 06 48 13        | Exterior Wood Door Frames                    |

|                 |                                               |
|-----------------|-----------------------------------------------|
| 06 48 16        | Interior Wood Door Frames                     |
| 06 48 19        | Ornamental Wood Frames                        |
| 06 48 23        | Stick-Built Wood Windows                      |
| 06 48 26        | Wood-Veneer Frames                            |
| <b>06 49 00</b> | <b>Wood Screens and Shutters</b>              |
| 06 49 13        | Wood Screens                                  |
| 06 49 16        | Wood Blinds                                   |
| 06 49 19        | Wood Shutters                                 |
| <b>06 50 00</b> | <b>Structural Plastics</b>                    |
| <b>06 51 00</b> | <b>Structural Plastic Shapes and Plates</b>   |
| 06 51 13        | Plastic Lumber                                |
| <b>06 52 00</b> | <b>Plastic Structural Assemblies</b>          |
| <b>06 53 00</b> | <b>Plastic Decking</b>                        |
| 06 53 13        | Solid Plastic Decking                         |
| <b>06 60 00</b> | <b>Plastic Fabrications</b>                   |
| <b>06 61 00</b> | <b>Cast Polymer Fabrications</b>              |
| 06 61 13        | Simulated Stone Fabrications                  |
| 06 61 16        | Solid Surfacing Fabrications                  |
| <b>06 63 00</b> | <b>Plastic Railings</b>                       |
| <b>06 64 00</b> | <b>Plastic Paneling</b>                       |
| 06 64 13        | Plastic Lattice Paneling                      |
| <b>06 65 00</b> | <b>Plastic Trim</b>                           |
| <b>06 66 00</b> | <b>Custom Ornamental Simulated Woodwork</b>   |
| <b>06 70 00</b> | <b>Structural Composites</b>                  |
| <b>06 71 00</b> | <b>Structural Composite Shapes and Plates</b> |
| 06 71 13        | Composite Lumber                              |
| <b>06 72 00</b> | <b>Composite Structural Assemblies</b>        |
| 06 72 13        | Composite Joist Assemblies                    |
| 06 72 23        | Composite Stair Assemblies                    |
| <b>06 73 00</b> | <b>Composite Decking</b>                      |
| 06 73 13        | Composite Structural Decking                  |
| <b>06 74 00</b> | <b>Composite Gratings</b>                     |
| 06 74 13        | Fiberglass Reinforced Gratings                |
| <b>06 80 00</b> | <b>Composite Fabrications</b>                 |
| <b>06 81 00</b> | <b>Composite Railings</b>                     |
| 06 81 13        | Glass-Fiber-Reinforced Plastic Railings       |
| <b>06 82 00</b> | <b>Composite Trim</b>                         |
| <b>06 83 00</b> | <b>Composite Paneling</b>                     |
| 06 83 13        | Resin Composite Paneling                      |
| 06 83 16        | Fiberglass Reinforced Paneling                |
| <b>07 00 00</b> | <b>Thermal and Moisture Protection</b>        |

## **07 01 00      Operation and Maintenance of Thermal and Moisture Protection**

- 07 01 10      Maintenance of Dampproofing and Waterproofing
- 07 01 10.81      Waterproofing Replacement
- 07 01 20      Maintenance of Thermal Protection
- 07 01 30      Maintenance of Steep Slope Roofing
- 07 01 40      Maintenance of Roofing and Siding Panels
- 07 01 50      Maintenance of Membrane Roofing
- 07 01 50.13      Roof Moisture Survey
- 07 01 50.16      Roof Maintenance Program
- 07 01 50.19      Preparation for Re-Roofing
- 07 01 50.23      Roof Removal
- 07 01 50.61      Roof Re-Coating
- 07 01 50.81      Roof Replacement
- 07 01 50.91      Roofing Restoration
- 07 01 60      Maintenance of Flashing and Sheet Metal
- 07 01 60.71      Flashing and Sheet Metal Rehabilitation
- 07 01 60.91      Flashing and Sheet Metal Restoration
- 07 01 60.92      Flashing and Sheet Metal Preservation
- 07 01 70      Operation and Maintenance of Roof Specialties and Accessories
- 07 01 80      Maintenance of Fire and Smoke Protection
- 07 01 90      Maintenance of Joint Protection
- 07 01 90.71      Joint Sealant Rehabilitation
- 07 01 90.81      Joint Sealant Replacement

## **07 03 00      Conservation Treatment for Period Roofing**

- 07 03 30      Conservation Treatment for Period Steep Slope Roofing
- 07 03 30.13      Conservation Treatment for Period Canvas Roofing
- 07 03 30.16      Conservation Treatment for Period Board Roofing
- 07 03 31      Conservation Treatment for Period Shingles and Shakes
- 07 03 31.16      Conservation Treatment for Period Metal Shingles
- 07 03 31.26      Conservation Treatment for Period Slate Shingles
- 07 03 31.29      Conservation Treatment for Period Wood Shingles and Shakes
- 07 03 32      Conservation Treatment for Period Roof Tiles
- 07 03 32.13      Conservation Treatment for Period Clay Roof Tiles
- 07 03 32.16      Conservation Treatment for Period Concrete Roof Tiles
- 07 03 32.19      Conservation Treatment for Period Metal Roof Tiles
- 07 03 33      Conservation Treatment for Period Natural Roof Coverings
- 07 03 33.13      Conservation Treatment for Period Sod Roofing
- 07 03 40      Conservation Treatment for Period Roofing and Siding Panels
- 07 03 41      Conservative Treatment for Period Roof Panels
- 07 03 41.13      Conservation Treatment for Period Metal Roof Panels
- 07 03 41.23      Conservation Treatment for Period Wood Roof Panels
- 07 03 46      Conservation Treatment for Period Wood Siding
- 07 03 60      Conservation Treatment of Period Flashing and Sheet Metal
- 07 03 61      Conservation Treatment for Period Sheet Metal Roofing
- 07 03 61.13      Conservation Treatment for Period Standing Seam Sheet Metal Roofing
- 07 03 61.16      Conservation Treatment for Period Batten Seam Sheet Metal Roofing
- 07 03 61.19      Conservation Treatment for Period Flat Seam Sheet Metal Roofing

## **07 05 00      Common Work Results for Thermal and Moisture Protection**

- 07 05 05      Selective Demolition for Thermal and Moisture Protection
- 07 05 43      Cladding Support Systems



|                 |                                                         |
|-----------------|---------------------------------------------------------|
| 07 05 53        | Fire and Smoke Assembly Identification                  |
| <b>07 06 00</b> | <b>Schedules for Thermal and Moisture Protection</b>    |
| 07 06 10        | Schedules for Dampproofing and Waterproofing            |
| 07 06 20        | Schedules for Thermal Protection                        |
| 07 06 30        | Schedules for Steep Slope Roofing                       |
| 07 06 40        | Schedules for Roofing and Siding Panels                 |
| 07 06 50        | Schedules for Membrane Roofing                          |
| 07 06 60        | Schedules for Flashing and Sheet Metal                  |
| 07 06 70        | Schedules for Roof Specialties and Accessories          |
| 07 06 80        | Schedules for Fire and Smoke Protection                 |
| 07 06 80.13     | Fireproofing Schedule                                   |
| 07 06 80.16     | Firestopping Schedule                                   |
| 07 06 90        | Schedules for Joint Protection                          |
| 07 06 90.13     | Joint Sealant Schedule                                  |
| <b>07 08 00</b> | <b>Commissioning of Thermal and Moisture Protection</b> |
| <b>07 10 00</b> | <b>Dampproofing and Waterproofing</b>                   |
| <b>07 11 00</b> | <b>Dampproofing</b>                                     |
| 07 11 13        | Bituminous Dampproofing                                 |
| 07 11 16        | Cementitious Dampproofing                               |
| 07 11 19        | Sheet Dampproofing                                      |
| <b>07 12 00</b> | <b>Built-Up Bituminous Waterproofing</b>                |
| 07 12 13        | Built-Up Asphalt Waterproofing                          |
| 07 12 16        | Built-Up Coal Tar Waterproofing                         |
| <b>07 13 00</b> | <b>Sheet Waterproofing</b>                              |
| 07 13 13        | Bituminous Sheet Waterproofing                          |
| 07 13 26        | Self-Adhering Sheet Waterproofing                       |
| 07 13 52        | Modified Bituminous Sheet Waterproofing                 |
| 07 13 53        | Elastomeric Sheet Waterproofing                         |
| 07 13 54        | Thermoplastic Sheet Waterproofing                       |
| <b>07 14 00</b> | <b>Fluid-Applied Waterproofing</b>                      |
| 07 14 13        | Hot Fluid-Applied Rubberized Asphalt Waterproofing      |
| 07 14 14        | Hot Fluid-Applied Polyurea Waterproofing                |
| 07 14 16        | Cold Fluid-Applied Waterproofing                        |
| <b>07 15 00</b> | <b>Sheet Metal Waterproofing</b>                        |
| 07 15 13        | Sheet Lead Waterproofing                                |
| <b>07 16 00</b> | <b>Cementitious and Reactive Waterproofing</b>          |
| 07 16 13        | Polymer Modified Cement Waterproofing                   |
| 07 16 16        | Crystalline Waterproofing                               |
| 07 16 19        | Metal Oxide Waterproofing                               |
| <b>07 17 00</b> | <b>Bentonite Waterproofing</b>                          |
| 07 17 13        | Bentonite Panel Waterproofing                           |
| 07 17 16        | Bentonite Composite Sheet Waterproofing                 |
| <b>07 18 00</b> | <b>Traffic Coatings</b>                                 |
| 07 18 13        | Pedestrian Traffic Coatings                             |
| 07 18 16        | Vehicular Traffic Coatings                              |
| <b>07 19 00</b> | <b>Water Repellents</b>                                 |
| 07 19 13        | Acrylic Water Repellents                                |

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| 07 19 16        | Silane Water Repellents                                |
| 07 19 19        | Silicone Water Repellents                              |
| 07 19 23        | Siloxane Water Repellents                              |
| 07 19 26        | Stearate Water Repellents                              |
| 07 19 29        | Penetrating Polyester Water Repellents                 |
| <b>07 20 00</b> | <b>Thermal Protection</b>                              |
| <b>07 21 00</b> | <b>Thermal Insulation</b>                              |
| 07 21 13        | Board Insulation                                       |
| 07 21 13.13     | Foam Board Insulation                                  |
| 07 21 13.16     | Fibrous Board Insulation                               |
| 07 21 13.19     | Mineral Board Insulation                               |
| 07 21 16        | Blanket Insulation                                     |
| 07 21 19        | Foamed-In-Place Insulation                             |
| 07 21 23        | Loose-Fill Insulation                                  |
| 07 21 26        | Blown Insulation                                       |
| 07 21 29        | Sprayed Insulation                                     |
| 07 21 53        | Reflective Insulation                                  |
| <b>07 22 00</b> | <b>Roof and Deck Insulation</b>                        |
| 07 22 13        | Asphaltic Perlite Concrete Deck                        |
| 07 22 16        | Roof Board Insulation                                  |
| <b>07 24 00</b> | <b>Exterior Insulation and Finish Systems</b>          |
| 07 24 13        | Polymer-Based Exterior Insulation and Finish System    |
| 07 24 16        | Polymer-Modified Exterior Insulation and Finish System |
| 07 24 19        | Water-Drainage Exterior Insulation and Finish System   |
| 07 24 23        | Direct-Applied Finish Systems                          |
| <b>07 25 00</b> | <b>Weather Barriers</b>                                |
| <b>07 26 00</b> | <b>Vapor Retarders</b>                                 |
| 07 26 13        | Above-Grade Vapor Retarders                            |
| 07 26 16        | Below-Grade Vapor Retarders                            |
| 07 26 23        | Below-Grade Gas Retarders                              |
| <b>07 27 00</b> | <b>Air Barriers</b>                                    |
| 07 27 13        | Modified Bituminous Sheet Air Barriers                 |
| 07 27 16        | Sheet Metal Membrane Air Barriers                      |
| 07 27 19        | Plastic Sheet Air Barriers                             |
| 07 27 23        | Board Product Air Barriers                             |
| 07 27 26        | Fluid-Applied Membrane Air Barriers                    |
| 07 27 36        | Sprayed Foam Air Barrier                               |
| <b>07 30 00</b> | <b>Steep Slope Roofing</b>                             |
| 07 30 91        | Canvas Roofing                                         |
| <b>07 31 00</b> | <b>Shingles and Shakes</b>                             |
| 07 31 13        | Asphalt Shingles                                       |
| 07 31 13.13     | Fiberglass-Reinforced Asphalt Shingles                 |
| 07 31 16        | Metal Shingles                                         |
| 07 31 19        | Mineral-Fiber Cement Shingles                          |
| 07 31 23        | Porcelain Enamel Shingles                              |
| 07 31 26        | Slate Shingles                                         |
| 07 31 29        | Wood Shingles and Shakes                               |
| 07 31 29.13     | Wood Shingles                                          |

|                 |                                              |
|-----------------|----------------------------------------------|
| 07 31 29.16     | Wood Shakes                                  |
| 07 31 33        | Composite Rubber Shingles                    |
| 07 31 53        | Plastic Shakes                               |
| <b>07 32 00</b> | <b>Roof Tiles</b>                            |
| 07 32 13        | Clay Roof Tiles                              |
| 07 32 14        | Ceramic and Porcelain Roof Tiles             |
| 07 32 16        | Concrete Roof Tiles                          |
| 07 32 19        | Metal Roof Tiles                             |
| 07 32 23        | Mineral-Fiber Cement Roof Tiles              |
| 07 32 26        | Plastic Roof Tiles                           |
| 07 32 29        | Rubber Tiles/Panels                          |
| <b>07 33 00</b> | <b>Natural Roof Coverings</b>                |
| 07 33 13        | Sod Roofing                                  |
| 07 33 16        | Thatched Roofing                             |
| 07 33 63        | Vegetated Steep-Slope Roofing                |
| <b>07 40 00</b> | <b>Roofing and Siding Panels</b>             |
| <b>07 41 00</b> | <b>Roof Panels</b>                           |
| 07 41 13        | Metal Roof Panels                            |
| 07 41 16        | Insulated Metal Roof Panels                  |
| 07 41 23        | Wood Roof Panels                             |
| 07 41 33        | Plastic Roof Panels                          |
| 07 41 43        | Composite Roof Panels                        |
| 07 41 63        | Fabricated Roof Panel Assemblies             |
| <b>07 42 00</b> | <b>Wall Panels</b>                           |
| 07 42 13        | Metal Wall Panels                            |
| 07 42 13.13     | Formed Metal Wall Panels                     |
| 07 42 13.16     | Metal Plate Wall Panels                      |
| 07 42 13.19     | Insulated Metal Wall Panels                  |
| 07 42 13.23     | Metal Composite Material Wall Panels         |
| 07 42 23        | Wood Wall Panels                             |
| 07 42 26        | Tile Wall Panels                             |
| 07 42 29        | Terra Cotta Wall Panels                      |
| 07 42 33        | Plastic Wall Panels                          |
| 07 42 43        | Composite Wall Panels                        |
| 07 42 46        | Cementitious Wall Panels                     |
| 07 42 63        | Fabricated Wall Panel Assemblies             |
| 07 42 93        | Soffit Panels                                |
| <b>07 44 00</b> | <b>Faced Panels</b>                          |
| 07 44 13        | Aggregate Coated Panels                      |
| 07 44 16        | Porcelain Enameled Faced Panels              |
| 07 44 19        | Tile-Faced Panels                            |
| 07 44 23        | Ceramic-Tile-Faced Panels                    |
| 07 44 33        | Metal Faced Panels                           |
| 07 44 53        | Glass-Fiber-Reinforced Cementitious Panels   |
| 07 44 56        | Mineral-Fiber-Reinforced Cementitious Panels |
| 07 44 63        | Fabricated Faced Panel Assemblies            |
| <b>07 46 00</b> | <b>Siding</b>                                |
| 07 46 16        | Aluminum Siding                              |
| 07 46 19        | Steel Siding                                 |

|             |                                         |
|-------------|-----------------------------------------|
| 07 46 21    | Zinc Siding                             |
| 07 46 23    | Wood Siding                             |
| 07 46 24    | Wood Shingle and Shake Siding           |
| 07 46 24.13 | Wood Shingle Siding                     |
| 07 46 24.16 | Wood Shake Siding                       |
| 07 46 26    | Hardboard Siding                        |
| 07 46 29    | Plywood Siding                          |
| 07 46 33    | Plastic Siding                          |
| 07 46 43    | Composition Siding                      |
| 07 46 46    | Fiber-Cement Siding                     |
| 07 46 63    | Fabricated Panel Assemblies with Siding |

## **07 50 00 Membrane Roofing**

### **07 51 00 Built-Up Bituminous Roofing**

|             |                                                 |
|-------------|-------------------------------------------------|
| 07 51 13    | Built-Up Asphalt Roofing                        |
| 07 51 13.13 | Cold-Applied Built-Up Asphalt Roofing           |
| 07 51 16    | Built-Up Coal Tar Roofing                       |
| 07 51 23    | Glass-Fiber-Reinforced Asphalt Emulsion Roofing |

### **07 52 00 Modified Bituminous Membrane Roofing**

|             |                                                                                      |
|-------------|--------------------------------------------------------------------------------------|
| 07 52 13    | Atactic-Polypropylene-Modified Bituminous Membrane Roofing                           |
| 07 52 13.11 | Cold Adhesive Applied Atactic-Polypropylene-Modified Bituminous Membrane Roofing     |
| 07 52 13.13 | Torch-Applied Atactic-Polypropylene-Modified Bituminous Membrane Roofing             |
| 07 52 13.14 | Mechanically Fastened Atactic-Polypropylene-Modified Bituminous Membrane Roofing     |
| 07 52 16    | Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing                       |
| 07 52 16.11 | Cold Adhesive Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing         |
| 07 52 16.12 | Hot-Mopped Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing            |
| 07 52 16.13 | Torch-Applied Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing         |
| 07 52 16.14 | Mechanically Fastened Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing |

### **07 53 00 Elastomeric Membrane Roofing**

|          |                                          |
|----------|------------------------------------------|
| 07 53 13 | Chlorinated-Polyethylene Roofing         |
| 07 53 16 | Chlorosulfonate-Polyethylene Roofing     |
| 07 53 23 | Ethylene-Propylene-Diene-Monomer Roofing |
| 07 53 29 | Polyisobutylene Roofing                  |

### **07 54 00 Thermoplastic Membrane Roofing**

|          |                                   |
|----------|-----------------------------------|
| 07 54 13 | Copolymer-Alloy Roofing           |
| 07 54 16 | Ketone Ethylene Ester Roofing     |
| 07 54 19 | Polyvinyl-Chloride Roofing        |
| 07 54 23 | Thermoplastic-Polyolefin Roofing  |
| 07 54 26 | Nitrile-Butadiene-Polymer Roofing |

### **07 55 00 Protected Membrane Roofing**

|             |                                                           |
|-------------|-----------------------------------------------------------|
| 07 55 51    | Built-Up Bituminous Protected Membrane Roofing            |
| 07 55 52    | Modified Bituminous Protected Membrane Roofing            |
| 07 55 53    | Elastomeric Protected Membrane Roofing                    |
| 07 55 54    | Thermoplastic Protected Membrane Roofing                  |
| 07 55 56    | Fluid-Applied Protected Membrane Roofing                  |
| 07 55 56.13 | Hot-Applied Rubberized Asphalt Protected Membrane Roofing |

|                 |                                                  |
|-----------------|--------------------------------------------------|
| 07 55 63        | Vegetated Protected Membrane Roofing             |
| <b>07 56 00</b> | <b>Fluid-Applied Roofing</b>                     |
| <b>07 57 00</b> | <b>Coated Foamed Roofing</b>                     |
| 07 57 13        | Sprayed Polyurethane Foam Roofing                |
| <b>07 58 00</b> | <b>Roll Roofing</b>                              |
| <b>07 60 00</b> | <b>Flashing and Sheet Metal</b>                  |
| <b>07 61 00</b> | <b>Sheet Metal Roofing</b>                       |
| 07 61 13        | Standing Seam Sheet Metal Roofing                |
| 07 61 16        | Batten Seam Sheet Metal Roofing                  |
| 07 61 19        | Flat Seam Sheet Metal Roofing                    |
| <b>07 62 00</b> | <b>Sheet Metal Flashing and Trim</b>             |
| <b>07 63 00</b> | <b>Sheet Metal Roofing Specialties</b>           |
| <b>07 64 00</b> | <b>Sheet Metal Wall Cladding</b>                 |
| 07 64 13        | Standing Seam Sheet Metal Wall Cladding          |
| 07 64 16        | Batten Seam Sheet Metal Wall Cladding            |
| 07 64 19        | Flat Seam Sheet Metal Wall Cladding              |
| <b>07 65 00</b> | <b>Flexible Flashing</b>                         |
| 07 65 13        | Laminated Sheet Flashing                         |
| 07 65 16        | Modified Bituminous Sheet Flashing               |
| 07 65 19        | Plastic Sheet Flashing                           |
| 07 65 23        | Rubber Sheet Flashing                            |
| 07 65 26        | Self-Adhering Sheet Flashing                     |
| <b>07 70 00</b> | <b>Roof and Wall Specialties and Accessories</b> |
| <b>07 71 00</b> | <b>Roof Specialties</b>                          |
| 07 71 13        | Manufactured Copings                             |
| 07 71 16        | Manufactured Counterflashing Systems             |
| 07 71 19        | Manufactured Gravel Stops and Fasciae            |
| 07 71 23        | Manufactured Gutters and Downspouts              |
| 07 71 23.13     | Gutter Debris Guards                             |
| 07 71 26        | Reglets                                          |
| 07 71 29        | Manufactured Roof Expansion Joints               |
| 07 71 33        | Manufactured Scuppers                            |
| <b>07 72 00</b> | <b>Roof Accessories</b>                          |
| 07 72 13        | Manufactured Curbs                               |
| 07 72 23        | Relief Vents                                     |
| 07 72 26        | Ridge Vents                                      |
| 07 72 33        | Roof Hatches                                     |
| 07 72 36        | Smoke Vents                                      |
| 07 72 39        | Operable Roof Vents                              |
| 07 72 43        | Roof Walk Boards                                 |
| 07 72 46        | Roof Walkways                                    |
| 07 72 53        | Snow Guards                                      |
| 07 72 63        | Waste Containment Assemblies                     |
| 07 72 73        | Vegetated Roof Systems                           |
| <b>07 76 00</b> | <b>Roof Pavers</b>                               |

|                 |                                                     |
|-----------------|-----------------------------------------------------|
| 07 76 13        | Roof Ballast Pavers                                 |
| 07 76 16        | Roof Decking Pavers                                 |
| <b>07 77 00</b> | <b>Wall Specialties</b>                             |
| <b>07 80 00</b> | <b>Fire and Smoke Protection</b>                    |
| <b>07 81 00</b> | <b>Applied Fireproofing</b>                         |
| 07 81 13        | Cement Aggregate Fireproofing                       |
| 07 81 16        | Cementitious Fireproofing                           |
| 07 81 19        | Foamed Magnesium-Oxychloride Fireproofing           |
| 07 81 23        | Intumescent Fireproofing                            |
| 07 81 26        | Magnesium Cement Fireproofing                       |
| 07 81 29        | Mineral-Fiber Cementitious Fireproofing             |
| 07 81 33        | Mineral-Fiber Fireproofing                          |
| <b>07 82 00</b> | <b>Board Fireproofing</b>                           |
| 07 82 13        | Calcium-Silicate Board Fireproofing                 |
| 07 82 16        | Slag-Fiber Board Fireproofing                       |
| <b>07 84 00</b> | <b>Firestopping</b>                                 |
| 07 84 13        | Penetration Firestopping                            |
| 07 84 13.13     | Penetration Firestopping Mortars                    |
| 07 84 13.16     | Penetration Firestopping Devices                    |
| 07 84 43        | Joint Firestopping                                  |
| 07 84 53        | Building Perimeter Firestopping                     |
| <b>07 86 00</b> | <b>Smoke Seals</b>                                  |
| <b>07 87 00</b> | <b>Smoke Containment Barriers</b>                   |
| <b>07 90 00</b> | <b>Joint Protection</b>                             |
| <b>07 91 00</b> | <b>Preformed Joint Seals</b>                        |
| 07 91 13        | Compression Seals                                   |
| 07 91 16        | Joint Gaskets                                       |
| 07 91 23        | Backer Rods                                         |
| 07 91 26        | Joint Fillers                                       |
| <b>07 92 00</b> | <b>Joint Sealants</b>                               |
| 07 92 13        | Elastomeric Joint Sealants                          |
| 07 92 16        | Rigid Joint Sealants                                |
| 07 92 19        | Acoustical Joint Sealants                           |
| <b>07 95 00</b> | <b>Expansion Control</b>                            |
| 07 95 13        | Expansion Joint Cover Assemblies                    |
| 07 95 13.13     | Interior Expansion Joint Cover Assemblies           |
| 07 95 13.16     | Exterior Expansion Joint Cover Assemblies           |
| 07 95 13.19     | Parking Deck Expansion Joint Cover Assemblies       |
| 07 95 53        | Joint Slide Bearings                                |
| 07 95 63        | Bridge Expansion Joint Cover Assemblies             |
| <b>08 00 00</b> | <b>Openings</b>                                     |
| <b>08 01 00</b> | <b>Operation and Maintenance of Openings</b>        |
| 08 01 10        | Operation and Maintenance of Doors and Frames       |
| 08 01 11        | Operation and Maintenance of Metal Doors and Frames |
| 08 01 14        | Operation and Maintenance of Wood Doors             |
| 08 01 15        | Operation and Maintenance of Plastic Doors          |

|             |                                                                        |
|-------------|------------------------------------------------------------------------|
| 08 01 16    | Operation and Maintenance of Composite Doors                           |
| 08 01 17    | Operation and Maintenance of Integrated Door Opening Assemblies        |
| 08 01 30    | Operation and Maintenance of Specialty Doors and Frames                |
| 08 01 32    | Operation and Maintenance of Sliding Glass Doors                       |
| 08 01 33    | Operation and Maintenance of Coiling Doors and Grilles                 |
| 08 01 34    | Operation and Maintenance of Special Function Doors                    |
| 08 01 35    | Operation and Maintenance of Folding Doors and Grilles                 |
| 08 01 36    | Operation and Maintenance of Panel Doors                               |
| 08 01 39    | Operation and Maintenance of Traffic Doors                             |
| 08 01 40    | Operation and Maintenance of Entrances, Storefronts, and Curtain Walls |
| 08 01 41    | Operation and Maintenance of Entrances                                 |
| 08 01 42    | Operation and Maintenance of Storefronts                               |
| 08 01 44    | Operation and Maintenance of Curtain Walls                             |
| 08 01 50    | Operation and Maintenance of Windows                                   |
| 08 01 51    | Operation and Maintenance of Metal Windows                             |
| 08 01 52    | Operation and Maintenance of Wood Windows                              |
| 08 01 52.61 | Wood Window Repairs                                                    |
| 08 01 52.71 | Wood Window Rehabilitation                                             |
| 08 01 52.81 | Wood Window Replacement                                                |
| 08 01 52.91 | Wood Window Restoration                                                |
| 08 01 52.93 | Historic Treatment of Wood Windows                                     |
| 08 01 53    | Operation and Maintenance of Plastic Windows                           |
| 08 01 54    | Operation and Maintenance of Composite Windows                         |
| 08 01 56    | Operation and Maintenance of Special Function Windows                  |
| 08 01 60    | Operation and Maintenance of Skylights and Roof Windows                |
| 08 01 61    | Operation and Maintenance of Roof Windows                              |
| 08 01 62    | Operation and Maintenance of Unit Skylights                            |
| 08 01 63    | Operation and Maintenance of Metal-Framed Skylights                    |
| 08 01 64    | Operation and Maintenance of Plastic-Framed Skylights                  |
| 08 01 70    | Operation and Maintenance of Hardware                                  |
| 08 01 71    | Operation and Maintenance of Door Hardware                             |
| 08 01 74    | Operation and Maintenance of Access Control Hardware                   |
| 08 01 75    | Operation and Maintenance of Window Hardware                           |
| 08 01 80    | Maintenance of Glazing                                                 |
| 08 01 81    | Maintenance of Glass Glazing                                           |
| 08 01 84    | Maintenance of Plastic Glazing                                         |
| 08 01 88    | Maintenance of Special Function Glazing                                |
| 08 01 90    | Operation and Maintenance of Louvers and Vents                         |
| 08 01 91    | Operation and Maintenance of Louvers                                   |
| 08 01 92    | Operation and Maintenance of Louvered Equipment Enclosures             |
| 08 01 95    | Operation and Maintenance of Vents                                     |

## **08 03 00      Conservation Treatment for Period Openings**

|             |                                                              |
|-------------|--------------------------------------------------------------|
| 08 03 11    | Conservation Treatment for Period Metal Doors and Frames     |
| 08 03 11.23 | Conservation Treatment for Period Bronze Doors and Frames    |
| 08 03 14    | Conservation Treatment for Period Wood Doors                 |
| 08 03 14.23 | Conservation Treatment for Period Metal-Faced Wood Doors     |
| 08 03 14.33 | Conservation Treatment for Period Stile and Rail Wood Doors  |
| 08 03 30    | Conservation Treatment for Period Specialty Doors and Frames |
| 08 03 34    | Conservation Treatment for Period Special Function Doors     |
| 08 03 34.59 | Conservation Treatment for Period Vault Doors                |
| 08 03 50    | Conservation Treatment for Period Windows                    |

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|-----------------|---------------------------------------------------------|
| 08 03 51        | Conservation Treatment for Period Metal Windows         |
| 08 03 51.16     | Conservation Treatment for Period Bronze Windows        |
| 08 03 51.23     | Conservation Treatment for Period Steel Windows         |
| 08 03 52        | Conservation Treatment for Period Wood Windows          |
| 08 03 70        | Conservation Treatment for Period Hardware              |
| 08 03 71        | Conservation Treatment for Period Door Hardware         |
| 08 03 75        | Conservation Treatment for Period Window Hardware       |
| 08 03 90        | Conservation Treatment for Period Louvers and Vents     |
| 08 03 91        | Conservation Treatment for Period Louvers               |
| 08 03 95        | Conservation Treatment for Period Vents                 |
| <b>08 05 00</b> | <b>Common Work Results for Openings</b>                 |
| 08 05 05        | Selective Demolition for Openings                       |
| <b>08 06 00</b> | <b>Schedules for Openings</b>                           |
| 08 06 10        | Door Schedule                                           |
| 08 06 10.13     | Door Type Schedule                                      |
| 08 06 10.16     | Frame Type Schedule                                     |
| 08 06 40        | Schedules for Entrances, Storefronts, and Curtain Walls |
| 08 06 41        | Entrance Schedule                                       |
| 08 06 42        | Storefront Schedule                                     |
| 08 06 50        | Window Schedule                                         |
| 08 06 60        | Skylight Schedule                                       |
| 08 06 70        | Hardware Schedule                                       |
| 08 06 71        | Door Hardware Schedule                                  |
| 08 06 80        | Glazing Schedule                                        |
| 08 06 90        | Louver and Vent Schedule                                |
| <b>08 08 00</b> | <b>Commissioning of Openings</b>                        |
| <b>08 10 00</b> | <b>Doors and Frames</b>                                 |
| <b>08 11 00</b> | <b>Metal Doors and Frames</b>                           |
| 08 11 13        | Hollow Metal Doors and Frames                           |
| 08 11 13.13     | Standard Hollow Metal Doors and Frames                  |
| 08 11 13.16     | Custom Hollow Metal Doors and Frames                    |
| 08 11 16        | Aluminum Doors and Frames                               |
| 08 11 19        | Stainless-Steel Doors and Frames                        |
| 08 11 23        | Bronze Doors and Frames                                 |
| 08 11 63        | Metal Screen and Storm Doors and Frames                 |
| 08 11 63.13     | Steel Screen and Storm Doors and Frames                 |
| 08 11 63.23     | Aluminum Screen and Storm Doors and Frames              |
| 08 11 66        | Metal Screen Doors and Frames                           |
| 08 11 66.13     | Steel Screen Doors and Frames                           |
| 08 11 66.23     | Aluminum Screen Doors and Frames                        |
| 08 11 69        | Metal Storm Doors and Frames                            |
| 08 11 69.13     | Steel Storm Doors and Frames                            |
| 08 11 69.23     | Aluminum Storm Doors and Frames                         |
| 08 11 73        | Sliding Metal Fire Doors                                |
| 08 11 74        | Sliding Metal Grilles                                   |
| <b>08 12 00</b> | <b>Metal Frames</b>                                     |
| 08 12 13        | Hollow Metal Frames                                     |
| 08 12 13.13     | Standard Hollow Metal Frames                            |
| 08 12 13.53     | Custom Hollow Metal Frames                              |
| 08 12 16        | Aluminum Frames                                         |



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|-----------------|----------------------------------------------|
| 08 12 19        | Stainless-Steel Frames                       |
| 08 12 23        | Bronze Frames                                |
| <b>08 13 00</b> | <b>Metal Doors</b>                           |
| 08 13 13        | Hollow Metal Doors                           |
| 08 13 13.13     | Standard Hollow Metal Doors                  |
| 08 13 13.53     | Custom Hollow Metal Doors                    |
| 08 13 16        | Aluminum Doors                               |
| 08 13 16.13     | Aluminum Terrace Doors                       |
| 08 13 19        | Stainless-Steel Doors                        |
| 08 13 23        | Bronze Doors                                 |
| 08 13 73        | Sliding Metal Doors                          |
| 08 13 76        | Bifolding Metal Doors                        |
| <b>08 14 00</b> | <b>Wood Doors</b>                            |
| 08 14 13        | Carved Wood Doors                            |
| 08 14 16        | Flush Wood Doors                             |
| 08 14 23        | Clad Wood Doors                              |
| 08 14 23.13     | Metal-Faced Wood Doors                       |
| 08 14 23.16     | Plastic-Laminate-Faced Wood Doors            |
| 08 14 23.17     | Plastic-Faced Wood Doors                     |
| 08 14 23.19     | Molded-Hardboard-Faced Wood Doors            |
| 08 14 29        | Prefinished Wood Doors                       |
| 08 14 33        | Stile and Rail Wood Doors                    |
| 08 14 33.13     | Wood Terrace Doors                           |
| 08 14 66        | Wood Screen Doors                            |
| 08 14 69        | Wood Storm Doors                             |
| 08 14 73        | Sliding Wood Doors                           |
| 08 14 76        | Bifolding Wood Doors                         |
| <b>08 15 00</b> | <b>Plastic Doors</b>                         |
| 08 15 13        | Laminated Plastic Doors                      |
| 08 15 16        | Solid Plastic Doors                          |
| 08 15 66        | Plastic Screen Doors                         |
| 08 15 69        | Plastic Storm Doors                          |
| 08 15 73        | Sliding Plastic Doors                        |
| 08 15 76        | Bifolding Plastic Doors                      |
| <b>08 16 00</b> | <b>Composite Doors</b>                       |
| 08 16 13        | Fiberglass Doors                             |
| 08 16 73        | Sliding Composite Doors                      |
| 08 16 76        | Bifolding Composite Doors                    |
| <b>08 17 00</b> | <b>Integrated Door Opening Assemblies</b>    |
| 08 17 13        | Integrated Metal Door Opening Assemblies     |
| 08 17 23        | Integrated Wood Door Opening Assemblies      |
| 08 17 33        | Integrated Plastic Door Opening Assemblies   |
| 08 17 43        | Integrated Composite Door Opening Assemblies |
| <b>08 30 00</b> | <b>Specialty Doors and Frames</b>            |
| <b>08 31 00</b> | <b>Access Doors and Panels</b>               |
| 08 31 13        | Access Doors and Frames                      |
| 08 31 13.53     | Security Access Doors and Frames             |
| 08 31 16        | Access Panels and Frames                     |
| <b>08 32 00</b> | <b>Sliding Glass Doors</b>                   |

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|-----------------|----------------------------------------------|
| 08 32 13        | Sliding Aluminum-Framed Glass Doors          |
| 08 32 16        | Sliding Plastic-Framed Glass Doors           |
| 08 32 19        | Sliding Wood-Framed Glass Doors              |
| <b>08 33 00</b> | <b>Coiling Doors and Grilles</b>             |
| 08 33 13        | Coiling Counter Doors                        |
| 08 33 16        | Coiling Counter Grilles                      |
| 08 33 23        | Overhead Coiling Doors                       |
| 08 33 23.13     | Overhead Rapid Coiling Doors                 |
| 08 33 26        | Overhead Coiling Grilles                     |
| 08 33 33        | Side Coiling Doors                           |
| 08 33 36        | Side Coiling Grilles                         |
| 08 33 43        | Overhead Coiling Smoke Curtains              |
| 08 33 44        | Overhead Coiling Fire Curtains               |
| <b>08 34 00</b> | <b>Special Function Doors</b>                |
| 08 34 13        | Cold Storage Doors                           |
| 08 34 16        | Hangar Doors                                 |
| 08 34 19        | Industrial Doors                             |
| 08 34 33        | Lightproof Doors                             |
| 08 34 36        | Darkroom Doors                               |
| 08 34 46        | Radio-Frequency-Interference Shielding Doors |
| 08 34 49        | Radiation Shielding Doors and Frames         |
| 08 34 49.13     | Neutron Shielding Doors and Frames           |
| 08 34 53        | Security Doors and Frames                    |
| 08 34 56        | Security Gates                               |
| 08 34 58        | File Room Doors and Frames                   |
| 08 34 59        | Vault Doors and Day Gates                    |
| 08 34 73        | Sound Control Door Assemblies                |
| 08 34 73.13     | Metal Sound Control Door Assemblies          |
| 08 34 73.16     | Wood Sound Control Door Assemblies           |
| <b>08 35 00</b> | <b>Folding Doors and Grilles</b>             |
| 08 35 13        | Folding Doors                                |
| 08 35 13.13     | Accordion Folding Doors                      |
| 08 35 13.23     | Accordion Folding Fire Doors                 |
| 08 35 13.33     | Panel Folding Doors                          |
| 08 35 16        | Folding Grilles                              |
| 08 35 16.13     | Accordion Folding Grilles                    |
| <b>08 36 00</b> | <b>Panel Doors</b>                           |
| 08 36 13        | Sectional Doors                              |
| 08 36 16        | Single-Panel Doors                           |
| 08 36 19        | Multi-Leaf Vertical Lift Doors               |
| 08 36 23        | Telescoping Vertical Lift Doors              |
| <b>08 38 00</b> | <b>Traffic Doors</b>                         |
| 08 38 13        | Flexible Strip Doors                         |
| 08 38 16        | Flexible Traffic Doors                       |
| 08 38 19        | Rigid Traffic Doors                          |
| <b>08 39 00</b> | <b>Pressure-Resistant Doors</b>              |
| 08 39 13        | Airtight Doors                               |
| 08 39 19        | Watertight Doors                             |
| 08 39 53        | Blast-Resistant Doors                        |

## **08 40 00 Entrances, Storefronts, and Curtain Walls**

### **08 41 00 Entrances and Storefronts**

- 08 41 13 Aluminum-Framed Entrances and Storefronts
- 08 41 13.13 Fire-Rated Aluminum-Framed Entrances and Storefronts
- 08 41 16 Bronze-Framed Entrances and Storefronts
- 08 41 19 Stainless-Steel-Framed Entrances and Storefronts
- 08 41 23 Steel-Framed Entrances and Storefronts
- 08 41 26 All-Glass Entrances and Storefronts
- 08 41 26.13 Point Supported All-Glass Storefronts

### **08 42 00 Entrances**

- 08 42 13 Aluminum-Framed Entrances
- 08 42 26 All-Glass Entrances
- 08 42 29 Automatic Entrances
- 08 42 29.13 Folding Automatic Entrances
- 08 42 29.23 Sliding Automatic Entrances
- 08 42 29.33 Swinging Automatic Entrances
- 08 42 33 Revolving Door Entrances
- 08 42 33.13 Security Revolving Door Entrances
- 08 42 36 Balanced Door Entrances
- 08 42 39 Pressure-Resistant Entrances
- 08 42 43 Intensive Care Unit/Critical Care Unit Entrances

### **08 43 00 Storefronts**

- 08 43 11 Timber-Framed Storefronts
- 08 43 13 Aluminum-Framed Storefronts
- 08 43 13.13 Fire-Rated Aluminum Storefronts
- 08 43 16 Bronze-Framed Storefronts
- 08 43 19 Stainless-Steel-Framed Storefronts
- 08 43 23 Steel-Framed Storefronts
- 08 43 26 All-Glass Storefronts
- 08 43 27 Channel Glass Storefronts
- 08 43 29 Sliding Storefronts

### **08 44 00 Curtain Wall and Glazed Assemblies**

- 08 44 11 Glazed Timber Curtain Walls
- 08 44 12 Glazed Composite Curtain Wall
- 08 44 12.13 Glazed Fiberglass Curtain Wall
- 08 44 13 Glazed Aluminum Curtain Walls
- 08 44 16 Glazed Bronze Curtain Walls
- 08 44 18 Glazed Steel Curtain Walls
- 08 44 19 Glazed Stainless-Steel Curtain Walls
- 08 44 23 Structural Sealant Glazed Curtain Walls
- 08 44 26 Structural Glass Curtain Walls
- 08 44 26.13 Glass Framed Point Supported Glass Curtain Walls
- 08 44 26.16 Metal Framed Point Supported Glass Curtain Walls
- 08 44 26.23 Cable Framed Point Supported Glass Curtain Walls
- 08 44 33 Sloped Glazing Assemblies

### **08 45 00 Translucent Wall and Roof Assemblies**

- 08 45 13 Structured-Polycarbonate-Panel Assemblies
- 08 45 23 Fiberglass-Sandwich-Panel Assemblies

### **08 46 00 Window Wall Assemblies**

|                 |                                                |
|-----------------|------------------------------------------------|
| <b>08 50 00</b> | <b>Windows</b>                                 |
| <b>08 51 00</b> | <b>Metal Windows</b>                           |
| 08 51 13        | Aluminum Windows                               |
| 08 51 16        | Bronze Windows                                 |
| 08 51 19        | Stainless-Steel Windows                        |
| 08 51 23        | Steel Windows                                  |
| 08 51 23.13     | Hot-Rolled Steel Windows                       |
| 08 51 23.23     | Cold-Rolled Steel Windows                      |
| 08 51 66        | Metal Window Screens                           |
| 08 51 69        | Metal Storm Windows                            |
| <b>08 52 00</b> | <b>Wood Windows</b>                            |
| 08 52 13        | Metal-Clad Wood Windows                        |
| 08 52 16        | Plastic-Clad Wood Windows                      |
| 08 52 66        | Wood Window Screens                            |
| 08 52 69        | Wood Storm Windows                             |
| <b>08 53 00</b> | <b>Plastic Windows</b>                         |
| 08 53 13        | Vinyl Windows                                  |
| 08 53 66        | Vinyl Window Screens                           |
| 08 53 69        | Vinyl Storm Windows                            |
| <b>08 54 00</b> | <b>Composite Windows</b>                       |
| 08 54 13        | Fiberglass Windows                             |
| 08 54 66        | Fiberglass Window Screens                      |
| 08 54 69        | Fiberglass Storm Windows                       |
| <b>08 55 00</b> | <b>Pressure-Resistant Windows</b>              |
| 08 55 13        | Tornado-Resistant Windows                      |
| 08 55 23        | Blast-Resistant Windows                        |
| <b>08 56 00</b> | <b>Special Function Windows</b>                |
| 08 56 19        | Pass Windows                                   |
| 08 56 46        | Radio-Frequency-Interference Shielding Windows |
| 08 56 49        | Radiation Shielding Windows                    |
| 08 56 53        | Security Windows                               |
| 08 56 56        | Security Window Screens                        |
| 08 56 59        | Service and Teller Window Units                |
| 08 56 73        | Sound Control Windows                          |
| 08 56 88        | Interior Insulating Windows                    |
| <b>08 60 00</b> | <b>Roof Windows and Skylights</b>              |
| <b>08 61 00</b> | <b>Roof Windows</b>                            |
| 08 61 13        | Metal Roof Windows                             |
| 08 61 16        | Wood Roof Windows                              |
| <b>08 62 00</b> | <b>Unit Skylights</b>                          |
| 08 62 13        | Domed Unit Skylights                           |
| 08 62 16        | Pyramidal Unit Skylights                       |
| 08 62 19        | Vaulted Unit Skylights                         |
| 08 62 23        | Tubular Skylights                              |
| <b>08 63 00</b> | <b>Metal-Framed Skylights</b>                  |
| 08 63 13        | Domed Metal-Framed Skylights                   |
| 08 63 16        | Pyramidal Metal-Framed Skylights               |

|                 |                                            |
|-----------------|--------------------------------------------|
| 08 63 19        | Vaulted Metal-Framed Skylights             |
| 08 63 23        | Ridge Metal-Framed Skylights               |
| 08 63 53        | Motorized Metal-Framed Skylights           |
| <b>08 64 00</b> | <b>Plastic-Framed Skylights</b>            |
| <b>08 65 00</b> | <b>Glazed Canopies</b>                     |
| 08 65 13        | Suspended Glazed Canopies                  |
| <b>08 67 00</b> | <b>Skylight Protection and Screens</b>     |
| <b>08 70 00</b> | <b>Hardware</b>                            |
| <b>08 71 00</b> | <b>Door Hardware</b>                       |
| 08 71 13        | Automatic Door Operators                   |
| 08 71 53        | Security Door Hardware                     |
| <b>08 75 00</b> | <b>Window Hardware</b>                     |
| 08 75 13        | Automatic Window Equipment                 |
| 08 75 16        | Window Operators                           |
| <b>08 78 00</b> | <b>Special Function Hardware</b>           |
| <b>08 79 00</b> | <b>Hardware Accessories</b>                |
| 08 79 13        | Key Storage Equipment                      |
| <b>08 80 00</b> | <b>Glazing</b>                             |
| <b>08 81 00</b> | <b>Glass Glazing</b>                       |
| 08 81 13        | Decorative Glass Glazing                   |
| 08 81 23        | Exterior Glass Glazing                     |
| 08 81 26        | Interior Glass Glazing                     |
| <b>08 83 00</b> | <b>Mirrors</b>                             |
| 08 83 13        | Mirrored Glass Glazing                     |
| 08 83 16        | Mirrored Plastic Glazing                   |
| <b>08 84 00</b> | <b>Plastic Glazing</b>                     |
| 08 84 13        | Decorative Plastic Glazing                 |
| <b>08 85 00</b> | <b>Glazing Accessories</b>                 |
| <b>08 87 00</b> | <b>Glazing Surface Films</b>               |
| 08 87 13        | Solar Control Films                        |
| 08 87 23        | Safety and Security Films                  |
| 08 87 23.13     | Safety Films                               |
| 08 87 23.16     | Security Films                             |
| 08 87 26        | Bird Control Film                          |
| 08 87 33        | Decorative Films                           |
| <b>08 88 00</b> | <b>Special Function Glazing</b>            |
| 08 88 13        | Fire-Resistant Glazing                     |
| 08 88 19        | Hurricane-Resistant Glazing                |
| 08 88 23        | Cable Suspended Glazing                    |
| 08 88 33        | Transparent Mirrored Glazing               |
| 08 88 36        | Switchable Glass                           |
| 08 88 36.16     | Electronically Controlled Switchable Glass |
| 08 88 39        | Pressure-Resistant Glazing                 |
| 08 88 49        | Radiation-Resistant Glazing                |
| 08 88 53        | Security Glazing                           |
| 08 88 56        | Ballistics-Resistant Glazing               |

**08 90 00 Louvers and Vents****08 91 00 Louvers**

- 08 91 13 Motorized Wall Louvers
- 08 91 16 Operable Wall Louvers
- 08 91 19 Fixed Louvers
- 08 91 26 Door Louvers

**08 92 00 Louvered Equipment Enclosures****08 95 00 Vents**

- 08 95 13 Soffit Vents
- 08 95 16 Wall Vents
- 08 95 33 Explosion Vents
- 08 95 43 Flood Vents

**09 00 00 Finishes****09 01 00 Maintenance of Finishes**

- 09 01 20 Maintenance of Plaster and Gypsum Board
- 09 01 20.91 Plaster Restoration
- 09 01 30 Maintenance of Tiling
- 09 01 30.91 Tile Restoration
- 09 01 50 Maintenance of Ceilings
- 09 01 50.91 Ceiling Restoration
- 09 01 60 Maintenance of Flooring
- 09 01 60.91 Flooring Restoration
- 09 01 70 Maintenance of Wall Finishes
- 09 01 70.91 Wall Finish Restoration
- 09 01 80 Maintenance of Acoustic Treatment
- 09 01 90 Maintenance of Painting and Coating
- 09 01 90.51 Paint Cleaning
- 09 01 90.52 Maintenance Repainting
- 09 01 90.53 Maintenance Coatings
- 09 01 90.61 Repainting
- 09 01 90.91 Paint Restoration
- 09 01 90.92 Coating Restoration
- 09 01 90.93 Paint Preservation

**09 03 00 Conservation Treatment of Period Finishes**

- 09 03 21 Conservation Treatment for Period Plaster Assemblies
- 09 03 25 Conservation Treatment for Period Plastering
- 09 03 25.23 Conservation Treatment for Period Lime-Based Plaster
- 09 03 30 Conservation Treatment for Period Tile
- 09 03 50 Conservation Treatment for Period Ceilings
- 09 03 51 Conservation Treatment for Period Suspended Ceilings
- 09 03 56 Conservation Treatment for Textured Ceilings
- 09 03 56.16 Conservation Treatment for Period Metal-Panel Textured Ceilings
- 09 03 60 Conservation Treatment for Period Flooring
- 09 03 63 Conservation Treatment for Period Masonry Flooring
- 09 03 63.13 Conservation Treatment for Period Brick Flooring
- 09 03 63.40 Conservation Treatment for Period Stone Flooring
- 09 03 64 Conservation Treatment for Period Wood Flooring
- 09 03 64.29 Conservation Treatment for Period Wood Strip and Plank Flooring
- 09 03 65 Conservation Treatment for Period Resilient Flooring
- 09 03 65.16 Conservation Treatment for Period Resilient Sheet Flooring

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| 09 03 66        | Conservation Treatment for Period Terrazzo Flooring    |
| 09 03 70        | Conservation Treatment for Period Wall Finishes        |
| 09 03 72        | Conservation Treatment for Period Wall Coverings       |
| 09 03 90        | Conservation Treatment for Period Painting and Coating |
| 09 03 91        | Conservation Treatment for Period Painted Surfaces     |
| 09 03 91.13     | Conservation Treatment for Period Exterior Painting    |
| 09 03 91.23     | Conservation Treatment for Period Interior Painting    |
| <b>09 05 00</b> | <b>Common Work Results for Finishes</b>                |
| 09 05 05        | Selective Demolition for Finishes                      |
| 09 05 13        | Common Finishes                                        |
| 09 05 61        | Common Work Results for Flooring Preparation           |
| 09 05 61.13     | Moisture Vapor Emission Control                        |
| 09 05 71        | Acoustic Underlayment                                  |
| <b>09 06 00</b> | <b>Schedules for Finishes</b>                          |
| 09 06 00.13     | Room Finish Schedule                                   |
| 09 06 20        | Schedules for Plaster and Gypsum Board                 |
| 09 06 30        | Schedules for Tiling                                   |
| 09 06 50        | Schedules for Ceilings                                 |
| 09 06 60        | Schedules for Flooring                                 |
| 09 06 70        | Schedules for Wall Finishes                            |
| 09 06 80        | Schedules for Acoustical Treatment                     |
| 09 06 90        | Schedules for Painting and Coating                     |
| 09 06 90.13     | Paint Schedule                                         |
| <b>09 08 00</b> | <b>Commissioning of Finishes</b>                       |
| <b>09 20 00</b> | <b>Plaster and Gypsum Board</b>                        |
| <b>09 21 00</b> | <b>Plaster and Gypsum Board Assemblies</b>             |
| 09 21 13        | Plaster Assemblies                                     |
| 09 21 16        | Gypsum Board Assemblies                                |
| 09 21 16.23     | Gypsum Board Shaft Wall Assemblies                     |
| 09 21 16.33     | Gypsum Board Area Separation Wall Assemblies           |
| <b>09 22 00</b> | <b>Supports for Plaster and Gypsum Board</b>           |
| 09 22 13        | Metal Furring                                          |
| 09 22 13.13     | Metal Channel Furring                                  |
| 09 22 13.23     | Resilient Channel Furring                              |
| 09 22 16        | Non-Structural Metal Framing                           |
| 09 22 16.13     | Non-Structural Metal Stud Framing                      |
| 09 22 26        | Suspension Systems                                     |
| 09 22 26.23     | Metal Suspension Systems                               |
| 09 22 26.33     | Plastic Suspension Systems                             |
| 09 22 36        | Lath                                                   |
| 09 22 36.13     | Gypsum Lath                                            |
| 09 22 36.23     | Metal Lath                                             |
| 09 22 39        | Veneer Plaster Base                                    |
| <b>09 23 00</b> | <b>Gypsum Plastering</b>                               |
| 09 23 13        | Acoustical Gypsum Plastering                           |
| 09 23 82        | Fireproof Gypsum Plastering                            |
| <b>09 24 00</b> | <b>Cement Plastering</b>                               |
| 09 24 13        | Adobe Finish                                           |
| 09 24 23        | Cement Stucco                                          |

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| 09 24 33        | Cement Parging                             |
| <b>09 25 00</b> | <b>Other Plastering</b>                    |
| 09 25 13        | Acrylic Plastering                         |
| 09 25 13.13     | Acrylic Plaster Finish                     |
| 09 25 23        | Lime Based Plastering                      |
| 09 25 26        | Natural Clay Plastering                    |
| <b>09 26 00</b> | <b>Veneer Plastering</b>                   |
| 09 26 13        | Gypsum Veneer Plastering                   |
| <b>09 27 00</b> | <b>Plaster Fabrications</b>                |
| 09 27 13        | Glass-Fiber-Reinforced Gypsum Fabrications |
| 09 27 23        | Simulated Plaster Fabrications             |
| <b>09 28 00</b> | <b>Backing Boards and Underlayments</b>    |
| 09 28 13        | Cementitious Backing Boards                |
| 09 28 16        | Glass-Mat Faced Gypsum Backing Boards      |
| 09 28 19        | Fiberglass Gypsum Backing Boards           |
| <b>09 29 00</b> | <b>Gypsum Board</b>                        |
| 09 29 82        | Gypsum Board Fireproofing                  |
| <b>09 30 00</b> | <b>Tiling</b>                              |
| 09 30 13        | Ceramic Tiling                             |
| 09 30 16        | Quarry Tiling                              |
| 09 30 19        | Paver Tiling                               |
| 09 30 23        | Glass Mosaic Tiling                        |
| 09 30 26        | Plastic Tiling                             |
| 09 30 29        | Metal Tiling                               |
| 09 30 33        | Stone Tiling                               |
| 09 30 36        | Concrete Tiling                            |
| 09 30 39        | Brick Tiling                               |
| <b>09 31 00</b> | <b>Thin-Set Tiling</b>                     |
| 09 31 13        | Thin-Set Ceramic Tiling                    |
| 09 31 16        | Thin-Set Quarry Tiling                     |
| 09 31 19        | Thin-Set Paver Tiling                      |
| 09 31 23        | Thin-Set Glass Mosaic Tiling               |
| 09 31 26        | Thin-Set Plastic Tiling                    |
| 09 31 29        | Thin-Set Metal Tiling                      |
| 09 31 33        | Thin-Set Stone Tiling                      |
| 09 31 36        | Thin-Set Concrete Tiling                   |
| <b>09 32 00</b> | <b>Mortar-Bed Tiling</b>                   |
| 09 32 13        | Mortar-Bed Ceramic Tiling                  |
| 09 32 16        | Mortar-Bed Quarry Tiling                   |
| 09 32 19        | Mortar-Bed Paver Tiling                    |
| 09 32 23        | Mortar-Bed Glass Mosaic Tiling             |
| 09 32 26        | Mortar-Bed Plastic Tiling                  |
| 09 32 29        | Mortar-Bed Metal Tiling                    |
| 09 32 33        | Mortar-Bed Stone Tiling                    |
| 09 32 36        | Mortar-Bed Concrete Tiling                 |
| <b>09 33 00</b> | <b>Conductive Tiling</b>                   |
| 09 33 13        | Conductive Ceramic Tiling                  |
| 09 33 16        | Conductive Quarry Tiling                   |



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| 09 33 19        | Conductive Paver Tiling                          |
| 09 33 23        | Conductive Glass Mosaic Tiling                   |
| 09 33 26        | Conductive Plastic Tiling                        |
| 09 33 29        | Conductive Metal Tiling                          |
| 09 33 33        | Conductive Stone Tiling                          |
| 09 33 36        | Conductive Concrete Tiling                       |
| <b>09 34 00</b> | <b>Waterproofing-Membrane Tiling</b>             |
| 09 34 13        | Waterproofing-Membrane Ceramic Tiling            |
| 09 34 16        | Waterproofing-Membrane Quarry Tiling             |
| 09 34 19        | Waterproofing-Membrane Paver Tiling              |
| 09 34 23        | Waterproofing-Membrane Glass Mosaic Tiling       |
| 09 34 26        | Waterproofing-Membrane Plastic Tiling            |
| 09 34 29        | Waterproofing-Membrane Metal Tiling              |
| 09 34 33        | Waterproofing-Membrane Stone Tiling              |
| 09 34 36        | Waterproofing-Membrane Concrete Tiling           |
| <b>09 35 00</b> | <b>Chemical-Resistant Tiling</b>                 |
| 09 35 13        | Chemical-Resistant Ceramic Tiling                |
| 09 35 16        | Chemical-Resistant Quarry Tiling                 |
| 09 35 19        | Chemical-Resistant Paver Tiling                  |
| 09 35 23        | Chemical-Resistant Glass Mosaic Tiling           |
| 09 35 26        | Chemical-Resistant Plastic Tiling                |
| 09 35 29        | Chemical-Resistant Metal Tiling                  |
| 09 35 33        | Chemical-Resistant Stone Tiling                  |
| 09 35 36        | Chemical-Resistant Concrete Tiling               |
| <b>09 50 00</b> | <b>Ceilings</b>                                  |
| <b>09 51 00</b> | <b>Acoustical Ceilings</b>                       |
| 09 51 13        | Acoustical Panel Ceilings                        |
| 09 51 14        | Acoustical Fabric-Faced Panel Ceilings           |
| 09 51 23        | Acoustical Tile Ceilings                         |
| 09 51 26        | Acoustical Wood Ceilings                         |
| 09 51 33        | Acoustical Metal Pan Ceilings                    |
| 09 51 33.13     | Acoustical Snap-in Metal Pan Ceilings            |
| 09 51 53        | Direct-Applied Acoustical Ceilings               |
| <b>09 53 00</b> | <b>Acoustical Ceiling Suspension Assemblies</b>  |
| 09 53 13        | Curved Profile Ceiling Suspension Assemblies     |
| 09 53 23        | Metal Acoustical Ceiling Suspension Assemblies   |
| 09 53 33        | Plastic Acoustical Ceiling Suspension Assemblies |
| <b>09 54 00</b> | <b>Specialty Ceilings</b>                        |
| 09 54 13        | Open Metal Mesh Ceilings                         |
| 09 54 16        | Luminous Ceilings                                |
| 09 54 19        | Mirror Panel Ceilings                            |
| 09 54 23        | Linear Metal Ceilings                            |
| 09 54 26        | Suspended Wood Ceilings                          |
| 09 54 29        | Suspended Plastic Ceilings                       |
| 09 54 33        | Decorative Panel Ceilings                        |
| 09 54 36        | Suspended Decorative Grids                       |
| 09 54 43        | Stretched-Fabric Ceiling Systems                 |
| 09 54 46        | Fabric-Wrapped Ceiling Panels                    |
| 09 54 53        | Fiberglass Reinforced Panel Ceilings             |

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| <b>09 56 00</b> | <b>Textured Ceilings</b>                  |
| 09 56 13        | Gypsum-Panel Textured Ceilings            |
| 09 56 16        | Metal-Panel Textured Ceilings             |
| <b>09 57 00</b> | <b>Special Function Ceilings</b>          |
| 09 57 53        | Security Ceiling Assemblies               |
| <b>09 58 00</b> | <b>Integrated Ceiling Assemblies</b>      |
| <b>09 60 00</b> | <b>Flooring</b>                           |
| <b>09 61 00</b> | <b>Flooring Treatment</b>                 |
| 09 61 13        | Slip-Resistant Flooring Treatment         |
| 09 61 19        | Concrete Floor Staining                   |
| 09 61 36        | Static-Resistant Flooring Treatment       |
| <b>09 62 00</b> | <b>Specialty Flooring</b>                 |
| 09 62 13        | Asphaltic Plank Flooring                  |
| 09 62 19        | Laminate Flooring                         |
| 09 62 23        | Bamboo Flooring                           |
| 09 62 26        | Leather Flooring                          |
| 09 62 29        | Cork Flooring                             |
| 09 62 35        | Acid-Resistant Flooring                   |
| 09 62 48        | Acoustic Flooring                         |
| 09 62 53        | Synthetic Turf Flooring                   |
| 09 62 63        | Metal Flooring                            |
| 09 62 63.13     | Aluminum Flooring                         |
| 09 62 63.16     | Stainless Steel Flooring                  |
| 09 62 83        | Structural Glass Flooring                 |
| <b>09 63 00</b> | <b>Masonry Flooring</b>                   |
| 09 63 13        | Brick Flooring                            |
| 09 63 13.35     | Chemical-Resistant Brick Flooring         |
| 09 63 40        | Stone Flooring                            |
| 09 63 43        | Composition Stone Flooring                |
| <b>09 64 00</b> | <b>Wood Flooring</b>                      |
| 09 64 16        | Wood Block Flooring                       |
| 09 64 19        | Wood Composition Flooring                 |
| 09 64 23        | Wood Parquet Flooring                     |
| 09 64 23.13     | Acrylic-Impregnated Wood Parquet Flooring |
| 09 64 29        | Wood Strip and Plank Flooring             |
| 09 64 33        | Laminated Wood Flooring                   |
| 09 64 53        | Resilient Wood Flooring Assemblies        |
| 09 64 66        | Wood Athletic Flooring                    |
| <b>09 65 00</b> | <b>Resilient Flooring</b>                 |
| 09 65 13        | Resilient Base and Accessories            |
| 09 65 13.13     | Resilient Base                            |
| 09 65 13.23     | Resilient Stair Treads and Risers         |
| 09 65 13.26     | Resilient Stair Nosings                   |
| 09 65 13.33     | Resilient Accessories                     |
| 09 65 13.36     | Resilient Carpet Transitions              |
| 09 65 16        | Resilient Sheet Flooring                  |
| 09 65 16.23     | Vinyl Sheet Flooring                      |
| 09 65 16.33     | Rubber Sheet Flooring                     |
| 09 65 16.43     | PVC-Free Sheet Flooring                   |

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|-----------------|------------------------------------------------------|
| 09 65 19        | Resilient Tile Flooring                              |
| 09 65 19.19     | Vinyl Composition Tile Flooring                      |
| 09 65 19.23     | Vinyl Tile Flooring                                  |
| 09 65 19.33     | Rubber Tile Flooring                                 |
| 09 65 19.43     | Polyester Composition Tile Flooring                  |
| 09 65 33        | Conductive Resilient Flooring                        |
| 09 65 36        | Static-Control Resilient Flooring                    |
| 09 65 36.13     | Static-Dissipative Resilient Flooring                |
| 09 65 36.16     | Static-Resistant Resilient Flooring                  |
| 09 65 43        | Linoleum Flooring                                    |
| 09 65 66        | Resilient Athletic Flooring                          |
| <b>09 66 00</b> | <b>Terrazzo Flooring</b>                             |
| 09 66 13        | Portland Cement Terrazzo Flooring                    |
| 09 66 13.13     | Sand Cushion Terrazzo Flooring                       |
| 09 66 13.16     | Monolithic Terrazzo Flooring                         |
| 09 66 13.19     | Bonded Terrazzo Flooring                             |
| 09 66 13.23     | Palladina Terrazzo Flooring                          |
| 09 66 13.26     | Rustic Terrazzo Flooring                             |
| 09 66 13.33     | Structural Terrazzo Flooring                         |
| 09 66 16        | Terrazzo Floor Tile                                  |
| 09 66 16.13     | Portland Cement Terrazzo Floor Tile                  |
| 09 66 16.16     | Plastic-Matrix Terrazzo Floor Tile                   |
| 09 66 23        | Resinous Matrix Terrazzo Flooring                    |
| 09 66 23.13     | Polyacrylate Modified Cementitious Terrazzo Flooring |
| 09 66 23.16     | Epoxy-Resin Terrazzo Flooring                        |
| 09 66 23.19     | Polyester-Resin Terrazzo Flooring                    |
| 09 66 33        | Conductive Terrazzo Flooring                         |
| 09 66 33.13     | Conductive Epoxy-Resin Terrazzo                      |
| 09 66 33.16     | Conductive Polyester-Resin Terrazzo Flooring         |
| 09 66 33.19     | Conductive Plastic-Matrix Terrazzo Flooring          |
| <b>09 67 00</b> | <b>Fluid-Applied Flooring</b>                        |
| 09 67 13        | Elastomeric Liquid Flooring                          |
| 09 67 13.33     | Conductive Elastomeric Liquid Flooring               |
| 09 67 16        | Epoxy-Marble Chip Flooring                           |
| 09 67 19        | Magnesium-Oxychloride Flooring                       |
| 09 67 23        | Resinous Flooring                                    |
| 09 67 26        | Quartz Flooring                                      |
| 09 67 66        | Fluid-Applied Athletic Flooring                      |
| <b>09 68 00</b> | <b>Carpeting</b>                                     |
| 09 68 13        | Tile Carpeting                                       |
| 09 68 16        | Sheet Carpeting                                      |
| <b>09 69 00</b> | <b>Access Flooring</b>                               |
| 09 69 13        | Rigid-Grid Access Flooring                           |
| 09 69 16        | Snap-on Stringer Access Flooring                     |
| 09 69 19        | Stringerless Access Flooring                         |
| 09 69 33        | Low-Profile Fixed Height Access Flooring             |
| 09 69 53        | Access Flooring Accessories                          |
| 09 69 56        | Access Flooring Stairs and Stringers                 |
| <b>09 70 00</b> | <b>Wall Finishes</b>                                 |
| <b>09 72 00</b> | <b>Wall Coverings</b>                                |
| 09 72 13        | Cork Wall Coverings                                  |

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| 09 72 16        | Vinyl-Coated Fabric Wall Coverings     |
| 09 72 16.13     | Flexible Vinyl Wall Coverings          |
| 09 72 16.16     | Rigid-Sheet Vinyl Wall Coverings       |
| 09 72 19        | Textile Wall Coverings                 |
| 09 72 23        | Wallpapering                           |
| <b>09 73 00</b> | <b>Wall Carpeting</b>                  |
| <b>09 74 00</b> | <b>Flexible Wood Sheets</b>            |
| 09 74 13        | Wood Wall Coverings                    |
| 09 74 16        | Flexible Wood Veneers                  |
| <b>09 75 00</b> | <b>Stone Facing</b>                    |
| 09 75 13        | Stone Wall Facing                      |
| 09 75 19        | Stone Trim                             |
| 09 75 19.13     | Stone Base                             |
| 09 75 19.23     | Stone Window Stools                    |
| 09 75 23        | Simulated Stone Wall Facing            |
| <b>09 76 00</b> | <b>Plastic Blocks</b>                  |
| <b>09 77 00</b> | <b>Special Wall Surfacing</b>          |
| 09 77 13        | Stretched-Fabric Wall Systems          |
| 09 77 23        | Fabric-Wrapped Panels                  |
| 09 77 33        | Terrazzo Wall Finish                   |
| 09 77 53        | Vegetated Wall Systems                 |
| <b>09 78 00</b> | <b>Interior Wall Paneling</b>          |
| 09 78 13        | Metal Interior Wall Paneling           |
| 09 78 16        | Stone-Faced Interior Wall Paneling     |
| 09 78 19        | Cementitious Interior Wall Paneling    |
| 09 78 23        | Phenolic Interior Wall Paneling        |
| <b>09 80 00</b> | <b>Acoustic Treatment</b>              |
| <b>09 81 00</b> | <b>Acoustic Insulation</b>             |
| 09 81 13        | Acoustic Board Insulation              |
| 09 81 16        | Acoustic Blanket Insulation            |
| 09 81 29        | Sprayed Acoustic Insulation            |
| <b>09 83 00</b> | <b>Acoustic Finishes</b>               |
| 09 83 13        | Acoustic Wall Coating                  |
| 09 83 16        | Acoustic Ceiling Coating               |
| 09 83 22        | Acoustic Drapery                       |
| <b>09 84 00</b> | <b>Acoustic Room Components</b>        |
| 09 84 13        | Fixed Sound-Absorptive Panels          |
| 09 84 14        | Acoustic Stretched-Fabric Wall Systems |
| 09 84 16        | Fixed Sound-Reflective Panels          |
| 09 84 23        | Moveable Sound-Absorptive Panels       |
| 09 84 26        | Moveable Sound-Reflective Panels       |
| 09 84 33        | Sound-Absorbing Wall Units             |
| 09 84 36        | Sound-Absorbing Ceiling Units          |
| <b>09 90 00</b> | <b>Painting and Coating</b>            |
| <b>09 91 00</b> | <b>Painting</b>                        |
| 09 91 13        | Exterior Painting                      |
| 09 91 23        | Interior Painting                      |

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| <b>09 93 00</b> | <b>Staining and Transparent Finishing</b>            |
| 09 93 13        | Exterior Staining and Finishing                      |
| 09 93 13.13     | Exterior Staining                                    |
| 09 93 13.53     | Exterior Finishing                                   |
| 09 93 23        | Interior Staining and Finishing                      |
| 09 93 23.13     | Interior Staining                                    |
| 09 93 23.53     | Interior Finishing                                   |
| <b>09 94 00</b> | <b>Decorative Finishing</b>                          |
| 09 94 13        | Textured Finishing                                   |
| 09 94 16        | Faux Finishing                                       |
| 09 94 19        | Multicolor Interior Finishing                        |
| 09 94 23        | Gilding                                              |
| <b>09 96 00</b> | <b>High-Performance Coatings</b>                     |
| 09 96 13        | Abrasion-Resistant Coatings                          |
| 09 96 23        | Graffiti-Resistant Coatings                          |
| 09 96 26        | Marine Coatings                                      |
| 09 96 33        | High-Temperature-Resistant Coatings                  |
| 09 96 35        | Chemical-Resistant Coatings                          |
| 09 96 43        | Fire-Retardant Coatings                              |
| 09 96 46        | Intumescent Painting                                 |
| 09 96 53        | Elastomeric Coatings                                 |
| 09 96 56        | Epoxy Coatings                                       |
| 09 96 59        | High-Build Glazed Coatings                           |
| 09 96 63        | Textured Plastic Coatings                            |
| 09 96 66        | Aggregate Wall Coatings                              |
| <b>09 97 00</b> | <b>Special Coatings</b>                              |
| 09 97 13        | Steel Coatings                                       |
| 09 97 13.13     | Interior Steel Coatings                              |
| 09 97 13.23     | Exterior Steel Coatings                              |
| 09 97 13.24     | Steel Water Storage Tank Painting                    |
| 09 97 23        | Concrete and Masonry Coatings                        |
| 09 97 23.24     | Concrete Water Storage Tank Painting                 |
| 09 97 26        | Cementitious Coatings                                |
| 09 97 26.13     | Interior Cementitious Coatings                       |
| 09 97 26.23     | Exterior Cementitious Coatings                       |
| 09 97 35        | Dry Erase Coatings                                   |
| <b>10 00 00</b> | <b>Specialties</b>                                   |
| <b>10 01 00</b> | <b>Operation and Maintenance of Specialties</b>      |
| 10 01 10        | Operation and Maintenance of Information Specialties |
| 10 01 20        | Operation and Maintenance of Interior Specialties    |
| 10 01 30        | Operation and Maintenance of Fireplaces and Stoves   |
| 10 01 40        | Operation and Maintenance of Safety Specialties      |
| 10 01 50        | Operation and Maintenance of Storage Specialties     |
| 10 01 70        | Operation and Maintenance of Exterior Specialties    |
| 10 01 80        | Operation and Maintenance of Other Specialties       |
| <b>10 05 00</b> | <b>Common Work Results for Specialties</b>           |
| 10 05 05        | Selective Demolition for Specialties                 |
| <b>10 06 00</b> | <b>Schedules for Specialties</b>                     |
| 10 06 10        | Schedules for Information Specialties                |

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|-----------------|----------------------------------------------|
| 10 06 10.13     | Exterior Signage Schedule                    |
| 10 06 10.16     | Interior Signage Schedule                    |
| 10 06 20        | Schedules for Interior Specialties           |
| 10 06 20.13     | Toilet, Bath, and Laundry Accessory Schedule |
| 10 06 30        | Schedules for Fireplaces and Stoves          |
| 10 06 40        | Schedules for Safety Specialties             |
| 10 06 50        | Schedules for Storage Specialties            |
| 10 06 70        | Schedules for Exterior Specialties           |
| 10 06 80        | Schedules for Other Specialties              |
| <b>10 08 00</b> | <b>Commissioning of Specialties</b>          |
| <b>10 10 00</b> | <b>Information Specialties</b>               |
| <b>10 11 00</b> | <b>Visual Display Units</b>                  |
| 10 11 13        | Chalkboards                                  |
| 10 11 13.13     | Fixed Chalkboards                            |
| 10 11 13.23     | Modular-Support-Mounted Chalkboards          |
| 10 11 13.33     | Rail-Mounted Chalkboards                     |
| 10 11 13.43     | Portable Chalkboards                         |
| 10 11 16        | Markerboards                                 |
| 10 11 16.13     | Fixed Markerboards                           |
| 10 11 16.23     | Modular-Support-Mounted Markerboards         |
| 10 11 16.33     | Rail-Mounted Markerboards                    |
| 10 11 16.43     | Portable Markerboards                        |
| 10 11 16.53     | Electronic Markerboards                      |
| 10 11 23        | Tackboards                                   |
| 10 11 23.13     | Fixed Tackboards                             |
| 10 11 23.23     | Modular-Support-Mounted Tackboards           |
| 10 11 23.33     | Rail-Mounted Tackboards                      |
| 10 11 23.43     | Portable Tackboards                          |
| 10 11 33        | Sliding Visual Display Units                 |
| 10 11 33.13     | Horizontal-Sliding Visual Display Units      |
| 10 11 33.23     | Vertical-Sliding Visual Display Units        |
| 10 11 36        | Visual Display Conference Units              |
| 10 11 39        | Visual Display Rails                         |
| 10 11 43        | Visual Display Wall Panels                   |
| 10 11 46        | Visual Display Fabrics                       |
| <b>10 12 00</b> | <b>Display Cases</b>                         |
| <b>10 13 00</b> | <b>Directories</b>                           |
| 10 13 13        | Electronic Directories                       |
| 10 13 23        | Illuminated Directories                      |
| <b>10 14 00</b> | <b>Signage</b>                               |
| 10 14 16        | Plaques                                      |
| 10 14 19        | Dimensional Letter Signage                   |
| 10 14 23        | Panel Signage                                |
| 10 14 23.13     | Engraved Panel Signage                       |
| 10 14 26        | Post and Panel/Pylon Signage                 |
| 10 14 33        | Illuminated Panel Signage                    |
| 10 14 43        | Photoluminescent Signage                     |
| 10 14 53        | Traffic Signage                              |
| 10 14 53.13     | Transportation Reference Markers             |
| 10 14 63        | Electronic Message Signage                   |
| 10 14 64        | Audible Signage                              |

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| 10 14 66        | Floating Signage                                       |
| 10 14 67        | Tactile Signage                                        |
| <b>10 17 00</b> | <b>Telephone Specialties</b>                           |
| 10 17 13        | Telephone Directory Units                              |
| 10 17 16        | Telephone Enclosures                                   |
| 10 17 16.13     | Telephone Stalls                                       |
| 10 17 16.16     | Telephone Alcoves                                      |
| 10 17 19        | Telephone Shelving                                     |
| <b>10 18 00</b> | <b>Informational Kiosks</b>                            |
| <b>10 20 00</b> | <b>Interior Specialties</b>                            |
| <b>10 21 00</b> | <b>Compartments and Cubicles</b>                       |
| 10 21 13        | Toilet Compartments                                    |
| 10 21 13.13     | Metal Toilet Compartments                              |
| 10 21 13.14     | Stainless-Steel Toilet Compartments                    |
| 10 21 13.16     | Plastic-Laminate-Clad Toilet Compartments              |
| 10 21 13.17     | Phenolic-Core Toilet Compartments                      |
| 10 21 13.19     | Plastic Toilet Compartments                            |
| 10 21 13.23     | Particleboard Toilet Compartments                      |
| 10 21 13.40     | Stone Toilet Compartments                              |
| 10 21 16        | Shower and Dressing Compartments                       |
| 10 21 16.13     | Metal Shower and Dressing Compartments                 |
| 10 21 16.14     | Stainless-Steel Shower and Dressing Compartments       |
| 10 21 16.16     | Plastic-Laminate-Clad Shower and Dressing Compartments |
| 10 21 16.17     | Phenolic-Core Shower and Dressing Compartments         |
| 10 21 16.19     | Plastic Shower and Dressing Compartments               |
| 10 21 16.23     | Particleboard Shower and Dressing Compartments         |
| 10 21 16.40     | Stone Shower and Dressing Compartments                 |
| 10 21 23        | Cubicle Curtains and Track                             |
| 10 21 23.13     | Cubicle Curtains                                       |
| 10 21 23.16     | Cubicle Track and Hardware                             |
| 10 21 26        | Room Darkening Curtains and Tracks                     |
| <b>10 22 00</b> | <b>Partitions</b>                                      |
| 10 22 13        | Wire Mesh Partitions                                   |
| 10 22 14        | Expanded Metal Partitions                              |
| 10 22 16        | Folding Gates                                          |
| 10 22 19        | Demountable Partitions                                 |
| 10 22 19.13     | Demountable Metal Partitions                           |
| 10 22 19.23     | Demountable Wood Partitions                            |
| 10 22 19.33     | Demountable Plastic Partitions                         |
| 10 22 19.43     | Demountable Composite Partitions                       |
| 10 22 19.53     | Demountable Gypsum Partitions                          |
| 10 22 23        | Portable Partitions, Screens, and Panels               |
| 10 22 23.13     | Wall Screens                                           |
| 10 22 23.23     | Movable Panel Systems                                  |
| 10 22 33        | Accordion Folding Partitions                           |
| 10 22 36        | Coiling Partitions                                     |
| 10 22 39        | Folding Panel Partitions                               |
| 10 22 39.13     | Folding Glass-Panel Partitions                         |
| 10 22 43        | Sliding Partitions                                     |
| <b>10 25 00</b> | <b>Service Walls</b>                                   |
| 10 25 13        | Patient Bed Service Walls                              |

|                 |                                                  |
|-----------------|--------------------------------------------------|
| 10 25 16        | Modular Service Walls                            |
| <b>10 26 00</b> | <b>Wall and Door Protection</b>                  |
| 10 26 13        | Corner Guards                                    |
| 10 26 16        | Bumper Guards                                    |
| 10 26 16.13     | Bumper Rails                                     |
| 10 26 16.16     | Protective Corridor Handrails                    |
| 10 26 23        | Protective Wall Covering                         |
| 10 26 23.13     | Impact Resistant Wall Protection                 |
| 10 26 23.16     | Fiberglass Reinforced Protective Wall Covering   |
| 10 26 33        | Door and Frame Protection                        |
| 10 26 41        | Bullet Resistant Panels                          |
| <b>10 28 00</b> | <b>Toilet, Bath, and Laundry Accessories</b>     |
| 10 28 13        | Toilet Accessories                               |
| 10 28 13.13     | Commercial Toilet Accessories                    |
| 10 28 13.19     | Healthcare Toilet Accessories                    |
| 10 28 13.53     | Security Toilet Accessories                      |
| 10 28 13.63     | Detention Toilet Accessories                     |
| 10 28 16        | Bath Accessories                                 |
| 10 28 16.13     | Residential Bath Accessories                     |
| 10 28 19        | Tub and Shower Enclosures                        |
| 10 28 19.16     | Shower Doors                                     |
| 10 28 19.19     | Tub Doors                                        |
| 10 28 23        | Laundry Accessories                              |
| 10 28 23.13     | Built-In Ironing Boards                          |
| 10 28 23.16     | Clothes Drying Racks                             |
| 10 28 26        | Hygiene and Custodial Accessories                |
| <b>10 30 00</b> | <b>Fireplaces and Stoves</b>                     |
| <b>10 31 00</b> | <b>Manufactured Fireplaces</b>                   |
| 10 31 13        | Manufactured Fireplace Chimneys                  |
| 10 31 16        | Manufactured Fireplace Forms                     |
| <b>10 32 00</b> | <b>Fireplace Specialties</b>                     |
| 10 32 13        | Fireplace Dampers                                |
| 10 32 16        | Fireplace Inserts                                |
| 10 32 19        | Fireplace Screens                                |
| 10 32 23        | Fireplace Doors                                  |
| 10 32 26        | Fireplace Water Heaters                          |
| <b>10 35 00</b> | <b>Stoves</b>                                    |
| 10 35 13        | Heating Stoves                                   |
| 10 35 23        | Cooking Stoves                                   |
| <b>10 40 00</b> | <b>Safety Specialties</b>                        |
| <b>10 41 00</b> | <b>Emergency Access and Information Cabinets</b> |
| 10 41 13        | Fire Department Plan Cabinets                    |
| 10 41 16        | Emergency Key Cabinets                           |
| <b>10 43 00</b> | <b>Emergency Aid Specialties</b>                 |
| 10 43 13        | Defibrillator Cabinets                           |
| 10 43 16        | First Aid Cabinets                               |
| 10 43 21        | Accessibility Evacuation Chairs                  |
| 10 43 31        | Respiration Equipment                            |
| 10 43 33        | Breathing Air Replenishment Systems              |



**10 44 00****Fire Protection Specialties**

- 10 44 13 Fire Protection Cabinets
- 10 44 13.53 Security Fire Extinguisher Cabinets
- 10 44 16 Fire Extinguishers
- 10 44 16.13 Portable Fire Extinguishers
- 10 44 16.16 Wheeled Fire Extinguisher Units
- 10 44 19 Fire Blankets
- 10 44 43 Fire Extinguisher Accessories

**10 45 00****Photoluminescent Exit Specialties****10 50 00****Storage Specialties****10 51 00****Lockers**

- 10 51 13 Metal Lockers
- 10 51 13.13 Coin-Operated Metal Lockers
- 10 51 16 Wood Lockers
- 10 51 23 Plastic-Laminate-Clad Lockers
- 10 51 26 Plastic Lockers
- 10 51 26.13 Recycled Plastic Lockers
- 10 51 29 Phenolic Lockers
- 10 51 33 Glass Lockers
- 10 51 43 Wire Mesh Storage Lockers
- 10 51 53 Locker Room Benches

**10 55 00****Postal Specialties**

- 10 55 13 Central Mail Delivery Boxes
- 10 55 13.13 Cluster Box Units
- 10 55 16 Mail Collection Boxes
- 10 55 19 Receiving Boxes
- 10 55 23 Mail Boxes
- 10 55 23.13 Apartment Mail Boxes
- 10 55 23.16 Mail Box Directories
- 10 55 23.19 Mail Box Key Keepers
- 10 55 26 Parcel Lockers
- 10 55 33 Data Distribution Boxes
- 10 55 36 Package Depositories
- 10 55 91 Mail Chutes

**10 56 00****Storage Assemblies**

- 10 56 13 Metal Storage Shelving
- 10 56 13.13 End-Panel-Support Metal Storage Shelving
- 10 56 13.16 Post-and-Shelf Metal Storage Shelving
- 10 56 13.19 Post-and-Beam Metal Storage Shelving
- 10 56 13.23 Cantilever Metal Storage Shelving
- 10 56 16 Fabricated Wood Storage Shelving
- 10 56 17 Wall-Mounted Standards and Shelving
- 10 56 19 Plastic Storage Shelving
- 10 56 19.13 Recycled Plastic Storage Shelving
- 10 56 23 Wire Storage Shelving
- 10 56 26 Mobile Storage Shelving
- 10 56 26.13 Manual Mobile Storage Shelving
- 10 56 26.23 Motorized Mobile Storage Shelving
- 10 56 29 Storage Racks
- 10 56 29.13 Flow Storage Racks

|             |                               |
|-------------|-------------------------------|
| 10 56 29.16 | Pallet Storage Racks          |
| 10 56 29.19 | Movable-Shelf Storage Racks   |
| 10 56 29.23 | Stacker Storage Racks         |
| 10 56 29.26 | Cantilever Storage Racks      |
| 10 56 29.29 | Drive-In Storage Racks        |
| 10 56 29.33 | Drive-Through Storage Racks   |
| 10 56 29.43 | Wine Storage Racks            |
| 10 56 33    | Mercantile Storage Assemblies |

## **10 57 00      Wardrobe and Closet Specialties**

|             |                                                   |
|-------------|---------------------------------------------------|
| 10 57 13    | Hat and Coat Racks                                |
| 10 57 16    | Boot Racks                                        |
| 10 57 23    | Closet and Utility Shelving                       |
| 10 57 23.13 | Wire Closet and Utility Shelving                  |
| 10 57 23.16 | Plastic-Laminate-Clad Closet and Utility Shelving |
| 10 57 23.19 | Wood Closet and Utility Shelving                  |
| 10 57 33    | Closet and Utility Shelving Hardware              |
| 10 57 36    | Closet Doors                                      |
| 10 57 36.13 | Sliding Closet Doors                              |
| 10 57 36.16 | Bifold Closet Doors                               |

## **10 70 00      Exterior Specialties**

### **10 71 00      Exterior Protection**

|             |                               |
|-------------|-------------------------------|
| 10 71 13    | Exterior Sun Control Devices  |
| 10 71 13.13 | Exterior Shutters             |
| 10 71 13.19 | Rolling Exterior Shutters     |
| 10 71 13.23 | Coiling Exterior Shutters     |
| 10 71 13.26 | Decorative Exterior Shutters  |
| 10 71 13.29 | Side-Hinged Exterior Shutters |
| 10 71 13.43 | Fixed Sun Screens             |
| 10 71 13.53 | Exterior Daylighting Devices  |
| 10 71 16    | Storm Panels                  |
| 10 71 16.13 | Demountable Storm Panels      |
| 10 71 16.16 | Movable Storm Panels          |
| 10 71 19    | Flood Barriers                |
| 10 71 19.16 | Removable Flood Barriers      |

### **10 73 00      Protective Covers**

|             |                                         |
|-------------|-----------------------------------------|
| 10 73 13    | Awnings                                 |
| 10 73 13.13 | Metal Awnings                           |
| 10 73 13.23 | Fabric Awnings                          |
| 10 73 13.36 | Point Supported Glass Awnings           |
| 10 73 16    | Canopies                                |
| 10 73 16.13 | Metal Canopies                          |
| 10 73 16.23 | Fabric Canopies                         |
| 10 73 16.33 | Glazed Canopies                         |
| 10 73 16.36 | Point Supported Glass Canopies          |
| 10 73 23    | Car Shelters                            |
| 10 73 26    | Walkway Coverings                       |
| 10 73 26.13 | Metal Walkway Coverings                 |
| 10 73 26.23 | Fabric Walkway Coverings                |
| 10 73 26.33 | Glazed Walkway Coverings                |
| 10 73 26.36 | Point Supported Glass Walkway Coverings |
| 10 73 33    | Marquees                                |
| 10 73 43    | Transportation Stop Shelters            |

**10 74 00**

- 10 74 13 Exterior Clocks
- 10 74 23 Cupolas
- 10 74 26 Spires
- 10 74 29 Steeples
- 10 74 33 Weathervanes
- 10 74 43 Below-Grade Egress Assemblies
- 10 74 46 Window Wells

**10 75 00****Flagpoles**

- 10 75 13 Automatic Flagpoles
- 10 75 16 Ground-Set Flagpoles
- 10 75 19 Nautical Flagpoles
- 10 75 23 Wall-Mounted Flagpoles
- 10 75 26 Roof-Mounted Flagpoles
- 10 75 29 Plaza-Mounted Flagpoles

**10 80 00****Other Specialties****10 81 00****Pest Control Devices**

- 10 81 13 Bird Control Devices
- 10 81 16 Insect Control Devices
- 10 81 19 Rodent Control Devices

**10 82 00****Grilles and Screens**

- 10 82 13 Exterior Grilles and Screens
- 10 82 19 Exterior Sound Screens
- 10 82 23 Interior Grilles and Screens

**10 83 00****Flags and Banners**

- 10 83 13 Flags
- 10 83 16 Banners

**10 84 00****Gas Lighting**

- 10 84 13 Exterior Gas Lighting
- 10 84 16 Interior Gas Lighting

**10 86 00****Security Mirrors and Domes****10 88 00****Scales****11 00 00****Equipment****11 01 00****Operation and Maintenance of Equipment**

- 11 01 10 Operation and Maintenance of Vehicle and Pedestrian Equipment
- 11 01 20 Operation and Maintenance of Commercial Equipment
- 11 01 30 Operation and Maintenance of Residential Equipment
- 11 01 40 Operation and Maintenance of Foodservice Equipment
- 11 01 50 Operation and Maintenance of Educational and Scientific Equipment
- 11 01 56 Operation and Maintenance of Observatory Equipment
- 11 01 60 Operation and Maintenance of Entertainment and Recreation Equipment
- 11 01 70 Operation and Maintenance of Healthcare Equipment
- 11 01 80 Operation and Maintenance of Facility Maintenance and Operation Equipment
- 11 01 90 Operation and Maintenance of Other Equipment

**11 05 00****Common Work Results for Equipment**

- 11 05 05 Selective Demolition for Equipment

|                 |                                                            |
|-----------------|------------------------------------------------------------|
| 11 05 13        | Common Motor Requirements for Equipment                    |
| <b>11 06 00</b> | <b>Schedules for Equipment</b>                             |
| 11 06 10        | Schedules for Vehicle and Pedestrian Equipment             |
| 11 06 20        | Schedules for Commercial Equipment                         |
| 11 06 30        | Schedules for Residential Equipment                        |
| 11 06 40        | Schedules for Foodservice Equipment                        |
| 11 06 40.13     | Foodservice Equipment Schedule                             |
| 11 06 50        | Schedules for Educational and Scientific Equipment         |
| 11 06 60        | Schedules for Entertainment and Recreation Equipment       |
| 11 06 70        | Schedules for Healthcare Equipment                         |
| 11 06 70.13     | Healthcare Equipment Schedule                              |
| 11 06 80        | Schedules for Facility Maintenance and Operation Equipment |
| 11 06 90        | Schedules for Other Equipment                              |
| 11 06 90.11     | Schedules for Detention Equipment                          |
| <b>11 08 00</b> | <b>Commissioning of Equipment</b>                          |
| <b>11 10 00</b> | <b>Vehicle and Pedestrian Equipment</b>                    |
| <b>11 11 00</b> | <b>Vehicle Service Equipment</b>                           |
| 11 11 13        | Compressed-Air Vehicle Service Equipment                   |
| 11 11 19        | Vehicle Lubrication Equipment                              |
| 11 11 23        | Tire-Changing Equipment                                    |
| 11 11 26        | Vehicle-Washing Equipment                                  |
| 11 11 36        | Vehicle Charging Equipment                                 |
| 11 11 36.13     | Commercial Electric Vehicle Charging Unit                  |
| 11 11 36.16     | Residential Electric Vehicle Charging Unit                 |
| <b>11 12 00</b> | <b>Parking Control Equipment</b>                           |
| 11 12 13        | Parking Key and Card Control Units                         |
| 11 12 16        | Parking Ticket Dispensers                                  |
| 11 12 23        | Parking Meters                                             |
| 11 12 26        | Parking Fee Collection Equipment                           |
| 11 12 26.13     | Parking Fee Coin Collection Equipment                      |
| 11 12 33        | Parking Gates                                              |
| 11 12 33.13     | Lift Arm Parking Gates                                     |
| 11 12 33.16     | Sliding Parking Gates                                      |
| 11 12 33.19     | Swinging Parking Gates                                     |
| <b>11 13 00</b> | <b>Loading Dock Equipment</b>                              |
| 11 13 13        | Loading Dock Bumpers                                       |
| 11 13 16        | Loading Dock Seals and Shelters                            |
| 11 13 16.13     | Loading Dock Seals                                         |
| 11 13 16.23     | Loading Dock Shelters                                      |
| 11 13 16.33     | Loading Dock Rail Shelters                                 |
| 11 13 19        | Stationary Loading Dock Equipment                          |
| 11 13 19.13     | Loading Dock Levelers                                      |
| 11 13 19.23     | Stationary Loading Dock Lifts                              |
| 11 13 19.26     | Loading Dock Truck Lifts                                   |
| 11 13 19.33     | Loading Dock Truck Restraints                              |
| 11 13 23        | Portable Dock Equipment                                    |
| 11 13 23.13     | Portable Dock Lifts                                        |
| 11 13 23.16     | Portable Dock Ramps                                        |
| 11 13 23.19     | Portable Dock Bridges                                      |
| 11 13 23.23     | Portable Dock Platforms                                    |
| 11 13 26        | Loading Dock Lights                                        |

**11 14 00 Pedestrian Control Equipment**

- 11 14 13 Pedestrian Gates
- 11 14 13.16 Rotary Gates
- 11 14 13.19 Turnstiles
- 11 14 16 Pedestrian Control Devices
- 11 14 19 Portable Posts and Railings
- 11 14 26 Pedestrian Fare Collection Equipment
- 11 14 26.13 Pedestrian Coin Fare Collection Equipment
- 11 14 43 Pedestrian Detection Equipment
- 11 14 43.13 Electronic Detection and Counting Systems
- 11 14 53 Pedestrian Security Equipment

**11 15 00 Security Control Equipment****11 20 00 Commercial Equipment****11 21 00 Retail and Service Equipment**

- 11 21 13 Cash Registers and Checking Equipment
- 11 21 23 Vending Equipment
- 11 21 23.13 Merchandise Vending Machines
- 11 21 23.16 Reverse Vending Machines
- 11 21 23.19 Video Rental Vending Machines
- 11 21 23.36 Token Vending Machines
- 11 21 24 Money Changing Machines
- 11 21 33 Checkroom Equipment
- 11 21 43 Weighing and Wrapping Equipment
- 11 21 53 Barber and Beauty Shop Equipment
- 11 21 63 Refrigerated Display Equipment
- 11 21 73 Commercial Laundry and Dry Cleaning Equipment
- 11 21 73.13 Dry Cleaning Equipment
- 11 21 73.16 Drying and Conditioning Equipment
- 11 21 73.19 Finishing Equipment
- 11 21 73.23 Commercial Ironing Equipment
- 11 21 73.26 Commercial Washers and Extractors
- 11 21 73.33 Coin-Operated Laundry Equipment
- 11 21 73.43 Hanging Garment Conveyors
- 11 21 83 Photo Processing Equipment

**11 22 00 Banking Equipment**

- 11 22 13 Vault Equipment
- 11 22 13.13 Safe Deposit Boxes
- 11 22 13.16 Safes
- 11 22 13.23 Vault Ventilators
- 11 22 13.26 Time Capsules
- 11 22 16 Teller and Service Equipment
- 11 22 16.13 Teller Equipment Systems
- 11 22 16.16 Automatic Banking Systems
- 11 22 16.19 Money Handling Equipment
- 11 22 16.23 Money Depositories
- 11 22 16.26 Money Cart Pass-Through
- 11 22 16.29 Package Transfer Units
- 11 22 16.33 Deal Trays

**11 25 00 Hospitality Equipment**

- 11 25 13 Registration Equipment

**11 28 00 Office Equipment**

|                 |                                                    |
|-----------------|----------------------------------------------------|
| 11 28 13        | Computers                                          |
| 11 28 16        | Printers                                           |
| 11 28 23        | Copiers                                            |
| <b>11 29 00</b> | <b>Postal, Packaging, and Shipping Equipment</b>   |
| 11 29 23        | Packaging Equipment                                |
| 11 29 33        | Shipping Equipment                                 |
| 11 29 55        | Postal Equipment                                   |
| <b>11 30 00</b> | <b>Residential Equipment</b>                       |
| 11 30 13        | Residential Appliances                             |
| 11 30 13.13     | Residential Kitchen Appliances                     |
| 11 30 13.23     | Residential Laundry Appliances                     |
| 11 30 33        | Retractable Stairs                                 |
| 11 30 34        | Residential Ceiling Fans                           |
| <b>11 32 00</b> | <b>Unit Kitchens</b>                               |
| 11 32 13        | Metal Unit Kitchens                                |
| 11 32 16        | Wood Unit Kitchens                                 |
| 11 32 19        | Plastic-Laminate-Clad Unit Kitchens                |
| <b>11 40 00</b> | <b>Foodservice Equipment</b>                       |
| <b>11 41 00</b> | <b>Foodservice Storage Equipment</b>               |
| 11 41 13        | Refrigerated Food Storage Cases                    |
| 11 41 23        | Walk-In Coolers                                    |
| 11 41 26        | Walk-In Freezers                                   |
| 11 41 33        | Foodservice Shelving                               |
| <b>11 42 00</b> | <b>Food Preparation Equipment</b>                  |
| 11 42 13        | Food Preparation Appliances                        |
| 11 42 16        | Food Preparation Surfaces                          |
| <b>11 43 00</b> | <b>Food Delivery Carts and Conveyors</b>           |
| 11 43 13        | Food Delivery Carts                                |
| 11 43 16        | Food Delivery Conveyors                            |
| <b>11 44 00</b> | <b>Food Cooking Equipment</b>                      |
| 11 44 13        | Commercial Ranges                                  |
| 11 44 16        | Commercial Ovens                                   |
| <b>11 46 00</b> | <b>Food Dispensing Equipment</b>                   |
| 11 46 13        | Bar Equipment                                      |
| 11 46 16        | Service Line Equipment                             |
| 11 46 19        | Soda Fountain Equipment                            |
| 11 46 23        | Coffee and Espresso Equipment                      |
| 11 46 83        | Ice Machines                                       |
| <b>11 48 00</b> | <b>Foodservice Cleaning and Disposal Equipment</b> |
| 11 48 13        | Commercial Dishwashers                             |
| <b>11 50 00</b> | <b>Educational and Scientific Equipment</b>        |
| <b>11 51 00</b> | <b>Library Equipment</b>                           |
| 11 51 13        | Automated Book Storage and Retrieval Systems       |
| 11 51 16        | Book Depositories                                  |
| 11 51 19        | Book Theft Protection Equipment                    |
| 11 51 23        | Library Stack Systems                              |
| 11 51 23.13     | Metal Library Shelving                             |

|                 |                                                |
|-----------------|------------------------------------------------|
| <b>11 52 00</b> | <b>Audio-Visual Equipment</b>                  |
| 11 52 13        | Projection Screens                             |
| 11 52 13.13     | Fixed Projection Screens                       |
| 11 52 13.16     | Portable Projection Screens                    |
| 11 52 13.19     | Rear Projection Screens                        |
| 11 52 16        | Projectors                                     |
| 11 52 16.13     | Movie Projectors                               |
| 11 52 16.16     | Slide Projectors                               |
| 11 52 16.19     | Overhead Projectors                            |
| 11 52 16.23     | Opaque Projectors                              |
| 11 52 16.26     | Video Projectors                               |
| 11 52 19        | Players and Recorders                          |
| 11 52 23        | Audio-Visual Equipment Supports                |
| <b>11 53 00</b> | <b>Laboratory Equipment</b>                    |
| 11 53 13        | Laboratory Fume Hoods                          |
| 11 53 13.13     | Recirculating Laboratory Fume Hoods            |
| 11 53 16        | Laboratory Incubators                          |
| 11 53 17        | Laboratory Equipment Washers                   |
| 11 53 19        | Laboratory Sterilizers                         |
| 11 53 23        | Laboratory Refrigerators                       |
| 11 53 26        | Laboratory Freezers                            |
| 11 53 29        | Laboratory Controlled-Environment Cabinets     |
| 11 53 33        | Emergency Safety Appliances                    |
| 11 53 43        | Service Fittings and Accessories               |
| 11 53 53        | Biological Safety Cabinets                     |
| <b>11 55 00</b> | <b>Planetarium Equipment</b>                   |
| 11 55 13        | Planetarium Projectors                         |
| 11 55 16        | Planetarium Pendulums                          |
| <b>11 56 00</b> | <b>Observatory Equipment</b>                   |
| 11 56 13        | Telescopes                                     |
| 11 56 16        | Telescope Mounts                               |
| 11 56 19        | Telescope Drive Mechanisms                     |
| 11 56 23        | Telescope Domes                                |
| <b>11 57 00</b> | <b>Vocational Shop Equipment</b>               |
| <b>11 59 00</b> | <b>Exhibit Equipment</b>                       |
| <b>11 60 00</b> | <b>Entertainment and Recreation Equipment</b>  |
| <b>11 61 00</b> | <b>Broadcast, Theater, and Stage Equipment</b> |
| 11 61 13        | Acoustical Shells                              |
| 11 61 23        | Folding and Portable Stages                    |
| 11 61 33        | Rigging Systems and Controls                   |
| 11 61 33.11     | Lighting Rigging Systems                       |
| 11 61 33.16     | Scenery Rigging Systems                        |
| 11 61 33.19     | Curtain Systems                                |
| 11 61 43        | Stage Curtains                                 |
| <b>11 62 00</b> | <b>Musical Equipment</b>                       |
| 11 62 13        | Bells                                          |
| 11 62 16        | Carillons                                      |
| 11 62 19        | Organs                                         |
| <b>11 66 00</b> | <b>Athletic Equipment</b>                      |

|                 |                                            |
|-----------------|--------------------------------------------|
| 11 66 13        | Exercise Equipment                         |
| 11 66 23        | Gymnasium Equipment                        |
| 11 66 23.13     | Basketball Equipment                       |
| 11 66 23.23     | Volleyball Equipment                       |
| 11 66 23.33     | Interior Tennis Equipment                  |
| 11 66 23.43     | Interior Track and Field Equipment         |
| 11 66 23.53     | Wall Padding                               |
| 11 66 23.56     | Mat Storage                                |
| 11 66 43        | Interior Scoreboards                       |
| 11 66 53        | Gymnasium Dividers                         |
| 11 66 53.13     | Batting/Golf Cages                         |
| <b>11 67 00</b> | <b>Recreational Equipment</b>              |
| 11 67 13        | Bowling Alley Equipment                    |
| 11 67 23        | Shooting Range Equipment                   |
| 11 67 33        | Climbing Walls                             |
| 11 67 43        | Table Games Equipment                      |
| 11 67 43.13     | Pool Tables                                |
| 11 67 43.23     | Ping-Pong Tables                           |
| 11 67 53        | Game Room Equipment                        |
| 11 67 53.13     | Video Games                                |
| 11 67 53.23     | Pinball Machines                           |
| <b>11 68 00</b> | <b>Play Field Equipment and Structures</b> |
| 11 68 13        | Playground Equipment                       |
| 11 68 16        | Play Structures                            |
| 11 68 23        | Exterior Court Athletic Equipment          |
| 11 68 23.13     | Exterior Basketball Equipment              |
| 11 68 23.23     | Exterior Volleyball Equipment              |
| 11 68 23.33     | Tennis Equipment                           |
| 11 68 33        | Athletic Field Equipment                   |
| 11 68 33.13     | Football Field Equipment                   |
| 11 68 33.23     | Soccer and Field Hockey Equipment          |
| 11 68 33.33     | Baseball Field Equipment                   |
| 11 68 33.43     | Track and Field Equipment                  |
| 11 68 43        | Exterior Scoreboards                       |
| <b>11 70 00</b> | <b>Healthcare Equipment</b>                |
| <b>11 71 00</b> | <b>Medical Sterilizing Equipment</b>       |
| <b>11 72 00</b> | <b>Examination and Treatment Equipment</b> |
| 11 72 13        | Examination Equipment                      |
| 11 72 53        | Treatment Equipment                        |
| <b>11 73 00</b> | <b>Patient Care Equipment</b>              |
| 11 73 13        | Psychiatric Seclusion Room Padding         |
| <b>11 74 00</b> | <b>Dental Equipment</b>                    |
| <b>11 75 00</b> | <b>Optical Equipment</b>                   |
| <b>11 76 00</b> | <b>Operating Room Equipment</b>            |
| <b>11 77 00</b> | <b>Radiology Equipment</b>                 |
| <b>11 78 00</b> | <b>Mortuary Equipment</b>                  |
| 11 78 13        | Mortuary Refrigerators                     |
| 11 78 16        | Crematorium Equipment                      |
| 11 78 19        | Mortuary Lifts                             |



|                 |                                                     |
|-----------------|-----------------------------------------------------|
| <b>11 79 00</b> | <b>Therapy Equipment</b>                            |
| <b>11 80 00</b> | <b>Facility Maintenance and Operation Equipment</b> |
| <b>11 81 00</b> | <b>Facility Maintenance Equipment</b>               |
| 11 81 13        | Floor and Wall Cleaning Equipment                   |
| 11 81 16        | Housekeeping Carts                                  |
| 11 81 19        | Vacuum Cleaning Systems                             |
| 11 81 23        | Façade Access Equipment                             |
| 11 81 23.13     | Window Washing Systems                              |
| 11 81 29        | Facility Fall Protection                            |
| <b>11 82 00</b> | <b>Facility Solid Waste Handling Equipment</b>      |
| 11 82 13        | Solid Waste Bins                                    |
| 11 82 19        | Packaged Incinerators                               |
| 11 82 23        | Recycling Equipment                                 |
| 11 82 26        | Facility Waste Compactors                           |
| 11 82 29        | Composting Equipment                                |
| 11 82 33        | Facility Waste Shredders                            |
| 11 82 36        | Facility Waste Balers                               |
| <b>11 90 00</b> | <b>Other Equipment</b>                              |
| <b>11 91 00</b> | <b>Religious Equipment</b>                          |
| 11 91 13        | Baptisteries                                        |
| <b>11 92 00</b> | <b>Agricultural Equipment</b>                       |
| 11 92 13        | Milkers                                             |
| 11 92 16        | Stock Feeders                                       |
| 11 92 19        | Stock Waterers                                      |
| 11 92 23        | Agricultural Waste Clean-Up Equipment               |
| <b>11 93 00</b> | <b>Horticultural Equipment</b>                      |
| 11 93 13        | Hydroponic Growing Systems                          |
| 11 93 16        | Seeders                                             |
| 11 93 19        | Transplanters                                       |
| 11 93 23        | Potting Machines                                    |
| 11 93 26        | Flat Fillers                                        |
| 11 93 29        | Baggers                                             |
| 11 93 33        | Soil Mixers                                         |
| <b>11 94 00</b> | <b>Veterinary Equipment</b>                         |
| <b>11 95 00</b> | <b>Arts and Crafts Equipment</b>                    |
| 11 95 13        | Kilns                                               |
| <b>11 97 00</b> | <b>Security Equipment</b>                           |
| 11 97 13        | Deal Drawers                                        |
| 11 97 16        | Gun Ports                                           |
| 11 97 23        | Valuable Material Storage                           |
| <b>11 98 00</b> | <b>Detention Equipment</b>                          |
| 11 98 11        | Detention Equipment General Requirements            |
| 11 98 12        | Detention Doors and Frames                          |
| 11 98 13        | Detention Pass-Through Doors                        |
| 11 98 14        | Detention Door Hardware                             |

|          |                               |
|----------|-------------------------------|
| 11 98 16 | Detention Equipment Fasteners |
| 11 98 19 | Detention Room Padding        |
| 11 98 21 | Detention Windows             |
| 11 98 23 | Detention Window Screens      |

## **12 00 00 Furnishings**

### **12 01 00 Operation and Maintenance of Furnishings**

|          |                                                          |
|----------|----------------------------------------------------------|
| 12 01 10 | Operation and Maintenance of Art                         |
| 12 01 20 | Operation and Maintenance of Window Treatments           |
| 12 01 30 | Operation and Maintenance of Casework                    |
| 12 01 40 | Operation and Maintenance of Furnishings and Accessories |
| 12 01 50 | Operation and Maintenance of Furniture                   |
| 12 01 60 | Operation and Maintenance of Multiple Seating            |
| 12 01 90 | Operation and Maintenance of Other Furnishings           |

### **12 05 00 Common Work Results for Furnishings**

|          |                                      |
|----------|--------------------------------------|
| 12 05 05 | Selective Demolition for Furnishings |
| 12 05 13 | Fabrics                              |

### **12 06 00 Schedules for Furnishings**

|             |                                           |
|-------------|-------------------------------------------|
| 12 06 10    | Schedules for Art                         |
| 12 06 20    | Schedules for Window Treatments           |
| 12 06 20.13 | Window Treatment Schedule                 |
| 12 06 30    | Schedules for Casework                    |
| 12 06 30.13 | Manufactured Casework Schedule            |
| 12 06 40    | Schedules for Furnishings and Accessories |
| 12 06 40.13 | Furnishings Schedule                      |
| 12 06 50    | Schedules for Furniture                   |
| 12 06 60    | Schedules for Multiple Seating            |
| 12 06 90    | Schedules for Other Furnishings           |

### **12 08 00 Commissioning of Furnishings**

## **12 10 00 Art**

### **12 11 00 Murals**

|          |                         |
|----------|-------------------------|
| 12 11 13 | Photo Murals            |
| 12 11 16 | Sculptured Brick Panels |
| 12 11 23 | Brick Murals            |
| 12 11 26 | Ceramic Tile Murals     |
| 12 11 33 | Trompe l'oeil           |

### **12 12 00 Wall Decorations**

|          |                        |
|----------|------------------------|
| 12 12 13 | Commissioned Paintings |
| 12 12 16 | Framed Paintings       |
| 12 12 19 | Framed Prints          |
| 12 12 23 | Tapestries             |
| 12 12 26 | Wall Hangings          |

### **12 14 00 Sculptures**

|          |                       |
|----------|-----------------------|
| 12 14 13 | Carved Sculpture      |
| 12 14 16 | Cast Sculpture        |
| 12 14 19 | Constructed Sculpture |
| 12 14 23 | Relief Art            |

### **12 17 00 Art Glass**

|                 |                                             |
|-----------------|---------------------------------------------|
| 12 17 13        | Etched Glass                                |
| 12 17 16        | Stained Glass                               |
| <b>12 19 00</b> | <b>Religious Art</b>                        |
| <b>12 20 00</b> | <b>Window Treatments</b>                    |
| <b>12 21 00</b> | <b>Window Blinds</b>                        |
| 12 21 13        | Wood Blinds                                 |
| 12 21 13.13     | Metal Horizontal Louver Blinds              |
| 12 21 13.23     | Wood Horizontal Louver Blinds               |
| 12 21 13.33     | Plastic Horizontal Louver Blinds            |
| 12 21 16        | Vertical Louver Blinds                      |
| 12 21 16.13     | Metal Vertical Louver Blinds                |
| 12 21 16.23     | Wood Vertical Louver Blinds                 |
| 12 21 16.33     | Plastic Vertical Louver Blinds              |
| 12 21 23        | Roll-Down Blinds                            |
| 12 21 26        | Black-Out Blinds                            |
| <b>12 22 00</b> | <b>Curtains and Drapes</b>                  |
| 12 22 13        | Draperies                                   |
| 12 22 16        | Drapery Track and Accessories               |
| <b>12 23 00</b> | <b>Interior Shutters</b>                    |
| 12 23 13        | Wood Interior Shutters                      |
| <b>12 24 00</b> | <b>Window Shades</b>                        |
| 12 24 13        | Roller Window Shades                        |
| 12 24 16        | Pleated Window Shades                       |
| 12 24 16.13     | Z-Pleated Window Shades                     |
| 12 24 16.16     | Cellular Shades                             |
| 12 24 16.19     | Roman Shades                                |
| <b>12 25 00</b> | <b>Window Treatment Operating Hardware</b>  |
| 12 25 09        | Window Treatment Control System             |
| 12 25 13        | Motorized Drapery Rods                      |
| <b>12 26 00</b> | <b>Interior Daylighting Devices</b>         |
| <b>12 30 00</b> | <b>Casework</b>                             |
| <b>12 31 00</b> | <b>Manufactured Metal Casework</b>          |
| 12 31 16        | Manufactured Metal Sandwich Panel Casework  |
| <b>12 32 00</b> | <b>Manufactured Wood Casework</b>           |
| 12 32 13        | Manufactured Wood-Veneer-Faced Casework     |
| 12 32 16        | Manufactured Plastic-Laminate-Clad Casework |
| <b>12 34 00</b> | <b>Manufactured Plastic Casework</b>        |
| 12 34 16        | Manufactured Solid-Plastic Casework         |
| 12 34 19        | Manufactured Solid Surface Casework         |
| <b>12 35 00</b> | <b>Specialty Casework</b>                   |
| 12 35 17        | Bank Casework                               |
| 12 35 25        | Hospitality Casework                        |
| 12 35 30        | Residential Casework                        |
| 12 35 30.13     | Kitchen Casework                            |
| 12 35 30.23     | Bathroom Casework                           |
| 12 35 30.43     | Dormitory Casework                          |
| 12 35 33        | Utility Room Casework                       |
| 12 35 36        | Mailroom Casework                           |

|                 |                                           |
|-----------------|-------------------------------------------|
| 12 35 39        | Commercial Kitchen Casework               |
| 12 35 50        | Educational/Library Casework              |
| 12 35 50.13     | Educational Casework                      |
| 12 35 50.53     | Library Casework                          |
| 12 35 50.56     | Built-In Study Carrels                    |
| 12 35 53        | Laboratory Casework                       |
| 12 35 53.13     | Metal Laboratory Casework                 |
| 12 35 53.16     | Plastic-Laminate-Clad Laboratory Casework |
| 12 35 53.19     | Wood Laboratory Casework                  |
| 12 35 53.23     | Solid-Plastic Laboratory Casework         |
| 12 35 59        | Display Casework                          |
| 12 35 70        | Healthcare Casework                       |
| 12 35 70.13     | Hospital Casework                         |
| 12 35 70.16     | Nurse Station Casework                    |
| 12 35 70.19     | Exam Room Casework                        |
| 12 35 70.74     | Dental Casework                           |
| 12 35 83        | Performing Arts Casework                  |
| 12 35 91        | Religious Casework                        |
| <b>12 36 00</b> | <b>Countertops</b>                        |
| 12 36 13        | Concrete Countertops                      |
| 12 36 16        | Metal Countertops                         |
| 12 36 19        | Wood Countertops                          |
| 12 36 23        | Plastic Countertops                       |
| 12 36 23.13     | Plastic-Laminate-Clad Countertops         |
| 12 36 26        | Glass Countertops                         |
| 12 36 40        | Stone Countertops                         |
| 12 36 53        | Laboratory Countertops                    |
| 12 36 61        | Simulated Stone Countertops               |
| 12 36 61.13     | Cultured Marble Countertops               |
| 12 36 61.16     | Solid Surfacing Countertops               |
| 12 36 61.19     | Quartz Agglomerate Countertops            |
| 12 36 71        | Paper-Composite Countertops               |
| <b>12 40 00</b> | <b>Furnishings and Accessories</b>        |
| <b>12 41 00</b> | <b>Office Accessories</b>                 |
| 12 41 13        | Desk Accessories                          |
| <b>12 42 00</b> | <b>Table Accessories</b>                  |
| 12 42 13        | Ceramics                                  |
| 12 42 16        | Flatware                                  |
| 12 42 16.13     | Silverware                                |
| 12 42 19        | Hollowware                                |
| 12 42 23        | Glassware                                 |
| 12 42 26        | Table Linens                              |
| 12 42 26.13     | Napery                                    |
| <b>12 43 00</b> | <b>Portable Lamps</b>                     |
| 12 43 13        | Lamps                                     |
| 12 43 13.13     | Desk Lamps                                |
| 12 43 13.16     | Table Lamps                               |
| 12 43 13.19     | Floor Lamps                               |
| <b>12 44 00</b> | <b>Bath Furnishings</b>                   |
| 12 44 13        | Bath Linens                               |
| 12 44 13.13     | Bath Mats                                 |

|                 |                                  |
|-----------------|----------------------------------|
| 12 44 13.16     | Bath Towels                      |
| 12 44 16        | Shower Curtains                  |
| <b>12 45 00</b> | <b>Bedroom Furnishings</b>       |
| 12 45 13        | Bed Linens                       |
| 12 45 13.13     | Blankets                         |
| 12 45 13.16     | Comforters                       |
| 12 45 16        | Pillows                          |
| <b>12 46 00</b> | <b>Furnishing Accessories</b>    |
| 12 46 13        | Ash Receptacles                  |
| 12 46 16        | Bowls                            |
| 12 46 19        | Clocks                           |
| 12 46 23        | Decorative Crafts                |
| 12 46 26        | Decorative Screens               |
| 12 46 29        | Vases                            |
| 12 46 33        | Waste Receptacles                |
| <b>12 48 00</b> | <b>Rugs and Mats</b>             |
| 12 48 13        | Entrance Floor Mats and Frames   |
| 12 48 13.13     | Entrance Floor Mats              |
| 12 48 13.16     | Entrance Floor Mat Frames        |
| 12 48 16        | Entrance Floor Grilles           |
| 12 48 19        | Entrance Floor Gratings          |
| 12 48 23        | Entrance Floor Grids             |
| 12 48 26        | Entrance Tile                    |
| 12 48 43        | Floor Mats                       |
| 12 48 43.13     | Chair Mats                       |
| 12 48 43.23     | Anti-Fatigue Floor Mats          |
| 12 48 43.26     | Fall-Cushioning Floor Mats       |
| 12 48 53        | Rugs                             |
| 12 48 53.13     | Runners                          |
| 12 48 53.16     | Oriental Rugs                    |
| <b>12 50 00</b> | <b>Furniture</b>                 |
| <b>12 51 00</b> | <b>Office Furniture</b>          |
| 12 51 16        | Case Goods                       |
| 12 51 16.13     | Metal Case Goods                 |
| 12 51 16.16     | Wood Case Goods                  |
| 12 51 16.19     | Plastic-Laminate-Clad Case Goods |
| 12 51 19        | Filing Cabinets                  |
| 12 51 19.13     | Lateral Filing Cabinets          |
| 12 51 19.16     | Vertical Filing Cabinets         |
| 12 51 23        | Office Tables                    |
| 12 51 83        | Custom Office Furniture          |
| <b>12 52 00</b> | <b>Seating</b>                   |
| 12 52 13        | Chairs                           |
| 12 52 19        | Upholstered Seating              |
| 12 52 23        | Office Seating                   |
| 12 52 70        | Healthcare Seating               |
| 12 52 83        | Custom Seating                   |
| <b>12 53 00</b> | <b>Retail Furniture</b>          |
| 12 53 83        | Custom Retail Furniture          |
| <b>12 54 00</b> | <b>Hospitality Furniture</b>     |

|                 |                                          |
|-----------------|------------------------------------------|
| 12 54 13        | Hotel and Motel Furniture                |
| 12 54 16        | Restaurant Furniture                     |
| 12 54 83        | Custom Hospitality Furniture             |
| <b>12 55 00</b> | <b>Detention Furniture</b>               |
| 12 55 13        | Detention Bunks                          |
| 12 55 16        | Detention Desks                          |
| 12 55 19        | Detention Stools                         |
| 12 55 23        | Detention Tables                         |
| 12 55 26        | Detention Safety Clothes Hooks           |
| 12 55 83        | Custom Detention Furniture               |
| 12 55 86        | Detention Control Room Furniture         |
| <b>12 56 00</b> | <b>Institutional Furniture</b>           |
| 12 56 23        | Religious Furniture                      |
| 12 56 33        | Classroom Furniture                      |
| 12 56 33.13     | Fixed Classroom Tables                   |
| 12 56 33.23     | Classroom Computer Furniture             |
| 12 56 39        | Lecterns                                 |
| 12 56 43        | Dormitory Furniture                      |
| 12 56 51        | Library Furniture                        |
| 12 56 51.13     | Book Shelves                             |
| 12 56 51.16     | Study Carrels                            |
| 12 56 51.19     | Index Card File Cabinets                 |
| 12 56 52        | Audio-Visual Furniture                   |
| 12 56 53        | Laboratory Furniture                     |
| 12 56 70        | Healthcare Furniture                     |
| 12 56 83        | Custom Institutional Furniture           |
| 12 56 86        | Institutional Control Room Furniture     |
| <b>12 57 00</b> | <b>Industrial Furniture</b>              |
| 12 57 13        | Welding Benches                          |
| 12 57 16        | Welding Screens                          |
| 12 57 19        | Laser Containment Screens                |
| 12 57 83        | Custom Industrial Furniture              |
| 12 57 86        | Industrial Control Room Furniture        |
| <b>12 58 00</b> | <b>Residential Furniture</b>             |
| 12 58 13        | Couches and Loveseats                    |
| 12 58 13.13     | Futons                                   |
| 12 58 16        | Residential Chairs                       |
| 12 58 16.13     | Reclining Chairs                         |
| 12 58 19        | Dining Tables and Chairs                 |
| 12 58 23        | Coffee Tables                            |
| 12 58 26        | Entertainment Centers                    |
| 12 58 29        | Beds                                     |
| 12 58 29.13     | Daybeds                                  |
| 12 58 33        | Dressers                                 |
| 12 58 33.13     | Armoires                                 |
| 12 58 36        | Nightstands                              |
| 12 58 83        | Custom Residential Furniture             |
| <b>12 59 00</b> | <b>Systems Furniture</b>                 |
| 12 59 13        | Panel-Hung Component System Furniture    |
| 12 59 16        | Free-Standing Component System Furniture |

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|-----------------|----------------------------------------------------------------------|
| 12 59 19        | Beam System Furniture                                                |
| 12 59 23        | Desk System Furniture                                                |
| 12 59 83        | Custom Systems Furniture                                             |
| <b>12 60 00</b> | <b>Multiple Seating</b>                                              |
| <b>12 61 00</b> | <b>Fixed Audience Seating</b>                                        |
| 12 61 13        | Upholstered Audience Seating                                         |
| 12 61 16        | Molded-Plastic Audience Seating                                      |
| <b>12 62 00</b> | <b>Portable Audience Seating</b>                                     |
| 12 62 13        | Folding Chairs                                                       |
| 12 62 16        | Interlocking Chairs                                                  |
| 12 62 19        | Stacking Chairs                                                      |
| 12 62 23        | Portable Bleachers                                                   |
| <b>12 63 00</b> | <b>Stadium and Arena Seating</b>                                     |
| 12 63 13        | Stadium and Arena Bench Seating                                      |
| 12 63 23        | Stadium and Arena Seats                                              |
| <b>12 64 00</b> | <b>Booths and Tables</b>                                             |
| <b>12 65 00</b> | <b>Multiple-Use Fixed Seating</b>                                    |
| <b>12 66 00</b> | <b>Telescoping Stands</b>                                            |
| 12 66 13        | Telescoping Bleachers                                                |
| 12 66 23        | Telescoping Chair Platforms                                          |
| <b>12 67 00</b> | <b>Pews and Benches</b>                                              |
| 12 67 13        | Pews                                                                 |
| 12 67 23        | Benches                                                              |
| <b>12 68 00</b> | <b>Seat and Table Assemblies</b>                                     |
| 12 68 13        | Pedestal Tablet Arm Chairs                                           |
| <b>12 90 00</b> | <b>Other Furnishings</b>                                             |
| <b>12 92 00</b> | <b>Interior Planters and Artificial Plants</b>                       |
| 12 92 13        | Interior Artificial Plants                                           |
| 12 92 33        | Interior Planters                                                    |
| 12 92 43        | Interior Landscaping Accessories                                     |
| <b>12 93 00</b> | <b>Interior Public Space Furnishings</b>                             |
| 12 93 13        | Bicycle Racks                                                        |
| 12 93 14        | Bicycle Lockers                                                      |
| 12 93 23        | Trash and Litter Receptacles                                         |
| <b>13 00 00</b> | <b>Special Construction</b>                                          |
| <b>13 01 00</b> | <b>Operation and Maintenance of Special Construction</b>             |
| 13 01 10        | Operation and Maintenance of Special Facility Components             |
| 13 01 11        | Operation and Maintenance of Swimming Pools                          |
| 13 01 12        | Operation and Maintenance of Fountains                               |
| 13 01 13        | Operation and Maintenance of Aquariums                               |
| 13 01 14        | Operation and Maintenance of Amusement Park Structures and Equipment |
| 13 01 18        | Operation and Maintenance of Ice Rinks                               |
| 13 01 20        | Operation and Maintenance of Special Purpose Rooms                   |
| 13 01 21        | Operation and Maintenance of Controlled Environment Rooms            |
| 13 01 23        | Operation and Maintenance of Planetariums                            |

|                 |                                                             |
|-----------------|-------------------------------------------------------------|
| 13 01 30        | Operation and Maintenance of Special Structures             |
| 13 01 40        | Operation and Maintenance of Integrated Construction        |
| 13 01 49        | Operation and Maintenance of Radiation Protection           |
| 13 01 50        | Operation and Maintenance of Special Instrumentation        |
| 13 01 51        | Operation and Maintenance of Stress Instrumentation         |
| 13 01 52        | Operation and Maintenance of Seismic Instrumentation        |
| 13 01 53        | Operation and Maintenance of Meteorological Instrumentation |
| <b>13 05 00</b> | <b>Common Work Results for Special Construction</b>         |
| 13 05 05        | Selective Demolition for Special Construction               |
| <b>13 06 00</b> | <b>Schedules for Special Construction</b>                   |
| 13 06 10        | Schedules for Special Facility Components                   |
| 13 06 20        | Schedules for Special Purpose Rooms                         |
| 13 06 30        | Schedules for Special Structures                            |
| 13 06 40        | Schedules for Integrated Construction                       |
| 13 06 50        | Schedules for Special Instrumentation                       |
| <b>13 08 00</b> | <b>Commissioning of Special Construction</b>                |
| 13 08 10        | Commissioning of Special Facility Components                |
| 13 08 11        | Commissioning of Swimming Pools                             |
| 13 08 12        | Commissioning of Fountains                                  |
| 13 08 13        | Commissioning of Aquariums                                  |
| 13 08 14        | Commissioning of Amusement Park Structures and Equipment    |
| 13 08 18        | Commissioning of Ice Rinks                                  |
| 13 08 20        | Commissioning of Special Purpose Rooms                      |
| 13 08 21        | Commissioning of Controlled Environment Rooms               |
| 13 08 23        | Commissioning of Planetariums                               |
| 13 08 30        | Commissioning of Special Structures                         |
| 13 08 40        | Commissioning of Integrated Construction                    |
| 13 08 50        | Commissioning of Special Instrumentation                    |
| <b>13 10 00</b> | <b>Special Facility Components</b>                          |
| <b>13 11 00</b> | <b>Swimming Pools</b>                                       |
| 13 11 13        | Below-Grade Swimming Pools                                  |
| 13 11 23        | On-Grade Swimming Pools                                     |
| 13 11 33        | Elevated Swimming Pools                                     |
| 13 11 43        | Recirculating Gutter Systems                                |
| 13 11 46        | Swimming Pool Accessories                                   |
| 13 11 49        | Swimming Pool Cleaning Equipment                            |
| 13 11 53        | Movable Pool Bulkheads                                      |
| 13 11 56        | Movable Pool Floors                                         |
| <b>13 12 00</b> | <b>Fountains</b>                                            |
| 13 12 13        | Exterior Fountains                                          |
| 13 12 23        | Interior Fountains                                          |
| <b>13 13 00</b> | <b>Aquariums</b>                                            |
| <b>13 14 00</b> | <b>Amusement Park Structures and Equipment</b>              |
| 13 14 13        | Water Slides                                                |
| 13 14 16        | Wave Generating Equipment                                   |
| 13 14 23        | Amusement Park Rides                                        |
| <b>13 15 00</b> | <b>Specialty Element Construction</b>                       |
| <b>13 17 00</b> | <b>Tubs and Pools</b>                                       |



|                 |                                                       |
|-----------------|-------------------------------------------------------|
| 13 17 13        | Hot Tubs                                              |
| 13 17 23        | Therapeutic Pools                                     |
| 13 17 33        | Whirlpool Tubs                                        |
| <b>13 18 00</b> | <b>Ice Rinks</b>                                      |
| 13 18 13        | Ice Rink Floor Systems                                |
| 13 18 16        | Ice Rink Dasher Boards                                |
| <b>13 19 00</b> | <b>Kennels and Animal Shelters</b>                    |
| 13 19 13        | Kennel Enclosures and Gates                           |
| 13 19 16        | Kennel Feeding Devices                                |
| 13 19 19        | Animal Washing Tubs                                   |
| <b>13 20 00</b> | <b>Special Purpose Rooms</b>                          |
| <b>13 21 00</b> | <b>Controlled Environment Rooms</b>                   |
| 13 21 13        | Clean Rooms                                           |
| 13 21 16        | Hyperbaric Rooms                                      |
| 13 21 23        | Insulated Rooms                                       |
| 13 21 26        | Cold Storage Rooms                                    |
| 13 21 26.13     | Walk-in Coolers                                       |
| 13 21 26.16     | Walk-in Freezers                                      |
| 13 21 29        | Constant Temperature Rooms                            |
| 13 21 48        | Sound-Conditioned Rooms                               |
| <b>13 22 00</b> | <b>Office Shelters and Booths</b>                     |
| <b>13 23 00</b> | <b>Planetariums</b>                                   |
| <b>13 24 00</b> | <b>Special Activity Rooms</b>                         |
| 13 24 16        | Saunas                                                |
| 13 24 26        | Steam Baths                                           |
| 13 24 66        | Athletic Rooms                                        |
| <b>13 26 00</b> | <b>Fabricated Rooms</b>                               |
| 13 26 13        | Storm Shelter Rooms                                   |
| <b>13 27 00</b> | <b>Vaults</b>                                         |
| 13 27 16        | Modular Fire Vaults                                   |
| 13 27 53        | Security Vaults                                       |
| 13 27 53.13     | Modular Concrete Security Vaults                      |
| 13 27 53.16     | Modular Metal-Clad Laminated Security Vaults          |
| <b>13 28 00</b> | <b>Athletic and Recreational Special Construction</b> |
| 13 28 13        | Indoor Soccer Boards                                  |
| 13 28 16        | Safety Netting                                        |
| 13 28 19        | Arena Football Boards                                 |
| 13 28 26        | Floor Sockets                                         |
| 13 28 33        | Athletic and Recreational Court Walls                 |
| 13 28 66        | Demountable Athletic Surfaces                         |
| <b>13 30 00</b> | <b>Special Structures</b>                             |
| <b>13 31 00</b> | <b>Fabric Structures</b>                              |
| 13 31 13        | Air-Supported Fabric Structures                       |
| 13 31 13.13     | Single-Walled Air-Supported Structures                |
| 13 31 13.16     | Multiple-Walled Air-Supported Structures              |
| 13 31 23        | Tensioned Fabric Structures                           |
| 13 31 33        | Framed Fabric Structures                              |

|                 |                                                          |
|-----------------|----------------------------------------------------------|
| <b>13 32 00</b> | <b>Space Frames</b>                                      |
| 13 32 13        | Metal Space Frames                                       |
| 13 32 23        | Wood Space Frames                                        |
| <b>13 33 00</b> | <b>Geodesic Structures</b>                               |
| 13 33 13        | Geodesic Domes                                           |
| <b>13 34 00</b> | <b>Fabricated Engineered Structures</b>                  |
| 13 34 13        | Glazed Structures                                        |
| 13 34 13.13     | Greenhouses                                              |
| 13 34 13.16     | Solariums                                                |
| 13 34 13.19     | Swimming Pool Enclosures                                 |
| 13 34 13.23     | Sunrooms                                                 |
| 13 34 13.26     | Conservatories                                           |
| 13 34 16        | Grandstands and Bleachers                                |
| 13 34 16.13     | Grandstands                                              |
| 13 34 16.53     | Bleachers                                                |
| 13 34 18        | Post Frame Building Systems                              |
| 13 34 19        | Metal Building Systems                                   |
| 13 34 23        | Fabricated Structures                                    |
| 13 34 23.13     | Portable and Mobile Buildings                            |
| 13 34 23.14     | Fabricated Classroom Buildings                           |
| 13 34 23.16     | Fabricated Control Booths                                |
| 13 34 23.19     | Fabricated Dome Structures                               |
| 13 34 23.23     | Fabricated Substation Control Rooms                      |
| 13 34 56        | Observatories                                            |
| <b>13 35 00</b> | <b>Rammed Earth Construction</b>                         |
| 13 35 13        | Rammed Earth Walls                                       |
| 13 35 13.13     | Traditional Rammed Earth Walls                           |
| 13 35 13.23     | Stabilized Insulated Rammed Earth Walls                  |
| <b>13 36 00</b> | <b>Towers</b>                                            |
| 13 36 13        | Metal Towers                                             |
| 13 36 13.13     | Steel Towers                                             |
| 13 36 23        | Wood Towers                                              |
| <b>13 40 00</b> | <b>Integrated Construction</b>                           |
| <b>13 42 00</b> | <b>Building Modules</b>                                  |
| 13 42 13        | Bathroom Unit Modules                                    |
| 13 42 25        | Hospitality Unit Modules                                 |
| 13 42 33        | Apartment Unit Modules                                   |
| 13 42 43        | Dormitory Unit Modules                                   |
| 13 42 46        | Education Unit Modules                                   |
| 13 42 63        | Detention Cell Modules                                   |
| 13 42 63.13     | Precast-Concrete Detention Cell Modules                  |
| 13 42 63.16     | Steel Detention Cell Modules                             |
| <b>13 44 00</b> | <b>Modular Mezzanines</b>                                |
| <b>13 47 00</b> | <b>Facility Protection</b>                               |
| 13 47 13        | Cathodic Protection                                      |
| 13 47 13.13     | Cathodic Protection for Underground and Submerged Piping |
| 13 47 13.16     | Cathodic Protection for Underground Storage Tanks        |
| 13 47 13.19     | Cathodic Protection for Concrete Reinforcing             |
| <b>13 48 00</b> | <b>Sound, Vibration, and Seismic Control</b>             |

|                 |                                                          |
|-----------------|----------------------------------------------------------|
| 13 48 13        | Manufactured Sound and Vibration Control Components      |
| 13 48 23        | Fabricated Sound and Vibration Control Assemblies        |
| 13 48 53        | Manufactured Seismic Control Components                  |
| 13 48 63        | Fabricated Seismic Control Assemblies                    |
| <b>13 49 00</b> | <b>Radiation Protection</b>                              |
| 13 49 13        | Integrated X-Ray Shielding Assemblies                    |
| 13 49 16        | Modular X-Ray Shielding Rooms                            |
| 13 49 23        | Integrated RFI/EMI Shielding Assemblies                  |
| 13 49 26        | Modular RFI/EMI Shielding Rooms                          |
| <b>13 50 00</b> | <b>Special Instrumentation</b>                           |
| <b>13 51 00</b> | <b>Stress Instrumentation</b>                            |
| <b>13 52 00</b> | <b>Seismic Instrumentation</b>                           |
| <b>13 53 00</b> | <b>Meteorological Instrumentation</b>                    |
| 13 53 13        | Solar Instrumentation                                    |
| 13 53 23        | Wind Instrumentation                                     |
| <b>14 00 00</b> | <b>Conveying Equipment</b>                               |
| <b>14 01 00</b> | <b>Operation and Maintenance of Conveying Equipment</b>  |
| 14 01 10        | Operation and Maintenance of Dumbwaiters                 |
| 14 01 10.71     | Dumbwaiter Rehabilitation                                |
| 14 01 20        | Operation and Maintenance of Elevators                   |
| 14 01 20.71     | Elevator Rehabilitation                                  |
| 14 01 30        | Operation and Maintenance of Escalators and Moving Walks |
| 14 01 30.71     | Escalators and Moving Walks Rehabilitation               |
| 14 01 40        | Operation and Maintenance of Lifts                       |
| 14 01 40.71     | Lift Rehabilitation                                      |
| 14 01 70        | Operation and Maintenance of Turntables                  |
| 14 01 80        | Operation and Maintenance of Scaffolding                 |
| 14 01 90        | Operation and Maintenance of Other Conveying Equipment   |
| <b>14 05 00</b> | <b>Common Work Results for Conveying Equipment</b>       |
| 14 05 05        | Selective Demolition for Conveying Equipment             |
| <b>14 06 00</b> | <b>Schedules for Conveying Equipment</b>                 |
| 14 06 10        | Schedules for Dumbwaiters                                |
| 14 06 20        | Schedules for Elevators                                  |
| 14 06 20.13     | Elevator Equipment Schedule                              |
| 14 06 30        | Schedules for Escalators and Moving Walks                |
| 14 06 40        | Schedules for Lifts                                      |
| 14 06 40.13     | Lift Schedule                                            |
| 14 06 70        | Schedules for Turntables                                 |
| 14 06 80        | Schedules for Scaffolding                                |
| 14 06 90        | Schedules for Other Conveying Equipment                  |
| <b>14 08 00</b> | <b>Commissioning of Conveying Equipment</b>              |
| 14 08 10        | Commissioning of Dumbwaiters                             |
| 14 08 20        | Commissioning of Elevators                               |
| 14 08 30        | Commissioning of Escalators and Moving Walks             |
| 14 08 40        | Commissioning of Lifts                                   |
| 14 08 70        | Commissioning of Turntables                              |
| 14 08 80        | Commissioning of Scaffolding                             |

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| <b>14 10 00</b> | <b>Dumbwaiters</b>                                      |
| <b>14 11 00</b> | <b>Manual Dumbwaiters</b>                               |
| <b>14 12 00</b> | <b>Electric Dumbwaiters</b>                             |
| <b>14 14 00</b> | <b>Hydraulic Dumbwaiters</b>                            |
| <b>14 20 00</b> | <b>Elevators</b>                                        |
| <b>14 21 00</b> | <b>Electric Traction Elevators</b>                      |
| 14 21 13        | Electric Traction Freight Elevators                     |
| 14 21 23        | Electric Traction Passenger Elevators                   |
| 14 21 23.13     | Machine Room Electric Traction Passenger Elevators      |
| 14 21 23.16     | Machine Room-Less Electric Traction Passenger Elevators |
| 14 21 33        | Electric Traction Residential Elevators                 |
| 14 21 43        | Electric Traction Service Elevators                     |
| <b>14 24 00</b> | <b>Hydraulic Elevators</b>                              |
| 14 24 13        | Hydraulic Freight Elevators                             |
| 14 24 23        | Hydraulic Passenger Elevators                           |
| 14 24 33        | Hydraulic Residential Elevators                         |
| 14 24 43        | Hydraulic Service Elevators                             |
| <b>14 26 00</b> | <b>Limited-Use/Limited-Application Elevators</b>        |
| <b>14 27 00</b> | <b>Custom Elevator Cabs and Doors</b>                   |
| 14 27 13        | Custom Elevator Cab Finishes                            |
| 14 27 16        | Custom Elevator Doors                                   |
| <b>14 28 00</b> | <b>Elevator Equipment and Controls</b>                  |
| 14 28 16        | Elevator Controls                                       |
| 14 28 19        | Elevator Equipment                                      |
| 14 28 19.13     | Elevator Safety Equipment                               |
| 14 28 19.16     | Elevator Hoistway Equipment                             |
| <b>14 30 00</b> | <b>Escalators and Moving Walks</b>                      |
| <b>14 31 00</b> | <b>Escalators</b>                                       |
| <b>14 32 00</b> | <b>Moving Walks</b>                                     |
| <b>14 33 00</b> | <b>Moving Ramps</b>                                     |
| 14 33 13        | Motorized Ramps                                         |
| 14 33 16        | Powered Ramps                                           |
| <b>14 40 00</b> | <b>Lifts</b>                                            |
| <b>14 41 00</b> | <b>People Lifts</b>                                     |
| 14 41 13        | Counterbalanced People Lifts                            |
| 14 41 16        | Endless-Belt People Lifts                               |
| 14 41 19        | Stairway Chairlifts                                     |
| <b>14 42 00</b> | <b>Wheelchair Lifts</b>                                 |
| 14 42 13        | Inclined Wheelchair Lifts                               |
| 14 42 16        | Vertical Wheelchair Lifts                               |
| <b>14 43 00</b> | <b>Platform Lifts</b>                                   |
| 14 43 13        | Orchestra Lifts                                         |
| 14 43 16        | Stage Lifts                                             |
| <b>14 44 00</b> | <b>Sidewalk Lifts</b>                                   |

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| <b>14 45 00</b> | <b>Vehicle Lifts</b>                                              |
| 14 45 13        | Vehicle Service Lifts                                             |
| 14 45 23        | Vehicle Parking Lifts                                             |
| <b>14 46 00</b> | <b>Material Lifts</b>                                             |
| <b>14 70 00</b> | <b>Turntables</b>                                                 |
| <b>14 71 00</b> | <b>Industrial Turntables</b>                                      |
| 14 71 11        | Vehicle Turntables                                                |
| <b>14 72 00</b> | <b>Hospitality Turntables</b>                                     |
| 14 72 25        | Restaurant Turntables                                             |
| <b>14 73 00</b> | <b>Exhibit Turntables</b>                                         |
| 14 73 59        | Display Turntables                                                |
| <b>14 74 00</b> | <b>Entertainment Turntables</b>                                   |
| 14 74 61        | Stage Turntables                                                  |
| <b>14 80 00</b> | <b>Scaffolding</b>                                                |
| <b>14 81 00</b> | <b>Suspended Scaffolding</b>                                      |
| 14 81 13        | Beam Scaffolding                                                  |
| 14 81 16        | Carriage Scaffolding                                              |
| 14 81 19        | Hook Scaffolding                                                  |
| <b>14 82 00</b> | <b>Rope Climbers</b>                                              |
| 14 82 13        | Manual Rope Climbers                                              |
| 14 82 16        | Powered Rope Climbers                                             |
| <b>14 83 00</b> | <b>Elevating Platforms</b>                                        |
| 14 83 13        | Telescoping Platform Lifts                                        |
| 14 83 13.13     | Electric and Battery Telescoping Platform Lifts                   |
| 14 83 13.16     | Pneumatic Telescoping Platform Lifts                              |
| 14 83 16        | Scissor Lift Platforms                                            |
| 14 83 19        | Multi-Axis Platform Lifts                                         |
| <b>14 84 00</b> | <b>Powered Scaffolding</b>                                        |
| 14 84 13        | Window Washing Scaffolding                                        |
| 14 84 23        | Window Washing Hoists                                             |
| <b>14 90 00</b> | <b>Other Conveying Equipment</b>                                  |
| <b>14 91 00</b> | <b>Facility Chutes</b>                                            |
| 14 91 13        | Coal Chutes                                                       |
| 14 91 23        | Escape Chutes                                                     |
| 14 91 33        | Laundry and Linen Chutes                                          |
| 14 91 82        | Trash Chutes                                                      |
| <b>14 92 00</b> | <b>Pneumatic Tube Systems</b>                                     |
| <b>14 93 00</b> | <b>Slide Pole Systems</b>                                         |
| 14 93 13        | Firehouse Slide Poles                                             |
| <b>21 00 00</b> | <b>Fire Suppression</b>                                           |
| <b>21 01 00</b> | <b>Operation and Maintenance of Fire Suppression</b>              |
| 21 01 10        | Operation and Maintenance of Water-Based Fire-Suppression Systems |
| 21 01 20        | Operation and Maintenance of Fire-Extinguishing Systems           |
| 21 01 30        | Operation and Maintenance of Fire-Suppression Equipment           |

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| <b>21 05 00</b> | <b>Common Work Results for Fire Suppression</b>                          |
| 21 05 05        | Selective Demolition for Fire Suppression                                |
| 21 05 13        | Common Motor Requirements for Fire-Suppression Equipment                 |
| 21 05 16        | Expansion Fittings and Loops for Fire-Suppression Piping                 |
| 21 05 17        | Sleeves and Sleeve Seals for Fire-Suppression Piping                     |
| 21 05 19        | Meters and Gages for Fire-Suppression Systems                            |
| 21 05 23        | General-Duty Valves for Water-Based Fire-Suppression Piping              |
| 21 05 29        | Hangers and Supports for Fire-Suppression Piping and Equipment           |
| 21 05 33        | Heat Tracing for Fire-Suppression Piping                                 |
| 21 05 48        | Vibration and Seismic Controls for Fire-Suppression Piping and Equipment |
| 21 05 48.13     | Vibration Controls for Fire-Suppression Piping and Equipment             |
| 21 05 53        | Identification for Fire-Suppression Piping and Equipment                 |
| <b>21 06 00</b> | <b>Schedules for Fire Suppression</b>                                    |
| 21 06 10        | Schedules for Water-Based Fire-Suppression Systems                       |
| 21 06 20        | Schedules for Fire-Extinguishing Systems                                 |
| 21 06 30        | Schedules for Fire-Suppression Equipment                                 |
| <b>21 07 00</b> | <b>Fire Suppression Systems Insulation</b>                               |
| 21 07 16        | Fire-Suppression Equipment Insulation                                    |
| 21 07 19        | Fire-Suppression Piping Insulation                                       |
| <b>21 08 00</b> | <b>Commissioning of Fire Suppression</b>                                 |
| <b>21 09 00</b> | <b>Instrumentation and Control for Fire-Suppression Systems</b>          |
| <b>21 10 00</b> | <b>Water-Based Fire-Suppression Systems</b>                              |
| <b>21 11 00</b> | <b>Facility Fire-Suppression Water-Service Piping</b>                    |
| 21 11 16        | Facility Fire Hydrants                                                   |
| 21 11 19        | Fire-Department Connections                                              |
| <b>21 12 00</b> | <b>Fire-Suppression Standpipes</b>                                       |
| 21 12 13        | Fire-Suppression Hoses and Nozzles                                       |
| 21 12 16        | Fire-Suppression Hose Reels                                              |
| 21 12 19        | Fire-Suppression Hose Racks                                              |
| 21 12 23        | Fire-Suppression Hose Valves                                             |
| <b>21 13 00</b> | <b>Fire-Suppression Sprinkler Systems</b>                                |
| 21 13 13        | Wet-Pipe Sprinkler Systems                                               |
| 21 13 16        | Dry-Pipe Sprinkler Systems                                               |
| 21 13 19        | Preaction Sprinkler Systems                                              |
| 21 13 23        | Combined Dry-Pipe and Preaction Sprinkler Systems                        |
| 21 13 26        | Deluge Fire-Suppression Sprinkler Systems                                |
| 21 13 29        | Water Spray Fixed Systems                                                |
| 21 13 36        | Antifreeze Sprinkler Systems                                             |
| 21 13 39        | Foam-Water Systems                                                       |
| <b>21 16 00</b> | <b>Fire-Suppression Pressure Maintenance Pumps</b>                       |
| <b>21 20 00</b> | <b>Fire-Extinguishing Systems</b>                                        |
| <b>21 21 00</b> | <b>Carbon-Dioxide Fire-Extinguishing Systems</b>                         |
| 21 21 13        | Carbon-Dioxide Fire-Extinguishing Piping                                 |
| 21 21 13.13     | High-Pressure, Carbon-Dioxide Fire-Extinguishing Systems                 |
| 21 21 13.16     | Low-Pressure, Carbon-Dioxide Fire-Extinguishing Systems                  |
| 21 21 16        | Carbon-Dioxide Fire-Extinguishing Equipment                              |

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| <b>21 22 00</b> | <b>Clean-Agent Fire-Extinguishing Systems</b>                   |
| 21 22 13        | Clean-Agent Fire-Extinguishing Piping                           |
| 21 22 16        | Clean-Agent Fire-Extinguishing Equipment                        |
| <b>21 23 00</b> | <b>Wet-Chemical Fire-Extinguishing Systems</b>                  |
| 21 23 13        | Wet-Chemical Fire-Extinguishing Piping                          |
| 21 23 16        | Wet-Chemical Fire-Extinguishing Equipment                       |
| <b>21 24 00</b> | <b>Dry-Chemical Fire-Extinguishing Systems</b>                  |
| 21 24 13        | Dry-Chemical Fire-Extinguishing Piping                          |
| 21 24 16        | Dry-Chemical Fire-Extinguishing Equipment                       |
| <b>21 30 00</b> | <b>Fire Pumps</b>                                               |
| <b>21 31 00</b> | <b>Centrifugal Fire Pumps</b>                                   |
| 21 31 13        | Electric-Drive, Centrifugal Fire Pumps                          |
| 21 31 16        | Diesel-Drive, Centrifugal Fire Pumps                            |
| <b>21 32 00</b> | <b>Vertical-Turbine Fire Pumps</b>                              |
| 21 32 13        | Electric-Drive, Vertical-Turbine Fire Pumps                     |
| 21 32 16        | Diesel-Drive, Vertical-Turbine Fire Pumps                       |
| <b>21 33 00</b> | <b>Positive-Displacement Fire Pumps</b>                         |
| 21 33 13        | Electric-Drive, Positive-Displacement Fire Pumps                |
| 21 33 16        | Diesel-Drive, Positive-Displacement Fire Pumps                  |
| <b>21 34 00</b> | <b>Fire Pump Accessories</b>                                    |
| 21 34 13        | Pressure Maintenance Pumps                                      |
| <b>21 40 00</b> | <b>Fire-Suppression Water Storage</b>                           |
| <b>21 41 00</b> | <b>Storage Tanks for Fire-Suppression Water</b>                 |
| 21 41 13        | Pressurized Storage Tanks for Fire-Suppression Water            |
| 21 41 16        | Elevated Storage Tanks for Fire-Suppression Water               |
| 21 41 19        | Roof-Mounted Storage Tanks for Fire-Suppression Water           |
| 21 41 23        | Ground Suction Storage Tanks for Fire-Suppression Water         |
| 21 41 26        | Underground Storage Tanks for Fire-Suppression Water            |
| 21 41 29        | Storage Tanks for Fire-Suppression Water Additives              |
| <b>22 00 00</b> | <b>Plumbing</b>                                                 |
| <b>22 01 00</b> | <b>Operation and Maintenance of Plumbing</b>                    |
| 22 01 10        | Operation and Maintenance of Plumbing Piping and Pumps          |
| 22 01 10.16     | Video Piping Inspections                                        |
| 22 01 10.51     | Plumbing Piping Cleaning                                        |
| 22 01 10.61     | Plumbing Piping Repairs                                         |
| 22 01 10.62     | Plumbing Piping Relining                                        |
| 22 01 30        | Operation and Maintenance of Plumbing Equipment                 |
| 22 01 40        | Operation and Maintenance of Plumbing Fixtures                  |
| 22 01 50        | Operation and Maintenance of Pool and Fountain Plumbing Systems |
| 22 01 60        | Operation and Maintenance of Laboratory and Healthcare Systems  |
| <b>22 05 00</b> | <b>Common Work Results for Plumbing</b>                         |
| 22 05 05        | Selective Demolition for Plumbing                               |
| 22 05 13        | Common Motor Requirements for Plumbing Equipment                |
| 22 05 16        | Expansion Fittings and Loops for Plumbing Piping                |
| 22 05 17        | Sleeves and Sleeve Seals for Plumbing Piping                    |
| 22 05 19        | Meters and Gages for Plumbing Piping                            |

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| 22 05 23        | General-Duty Valves for Plumbing Piping                                            |
| 22 05 29        | Hangers and Supports for Plumbing Piping and Equipment                             |
| 22 05 33        | Heat Tracing for Plumbing Piping                                                   |
| 22 05 48        | Vibration and Seismic Controls for Plumbing Piping and Equipment                   |
| 22 05 48.13     | Vibration Controls for Plumbing Piping and Equipment                               |
| 22 05 53        | Identification for Plumbing Piping and Equipment                                   |
| 22 05 73        | Facility Drainage Manholes                                                         |
| 22 05 76        | Facility Drainage Piping Cleanouts                                                 |
| <b>22 06 00</b> | <b>Schedules for Plumbing</b>                                                      |
| 22 06 10        | Schedules for Plumbing Piping and Pumps                                            |
| 22 06 10.13     | Plumbing Pump Schedule                                                             |
| 22 06 12        | Schedules for Facility Potable Water Storage                                       |
| 22 06 15        | Schedules for General Service Compressed-Air Equipment                             |
| 22 06 30        | Schedules for Plumbing Equipment                                                   |
| 22 06 30.13     | Domestic Water Heater Schedule                                                     |
| 22 06 40        | Schedules for Plumbing Fixtures                                                    |
| 22 06 40.13     | Plumbing Fixture Schedule                                                          |
| 22 06 50        | Schedules for Pool and Fountain Plumbing Systems                                   |
| 22 06 60        | Schedules for Laboratory and Healthcare Systems                                    |
| <b>22 07 00</b> | <b>Plumbing Insulation</b>                                                         |
| 22 07 16        | Plumbing Equipment Insulation                                                      |
| 22 07 19        | Plumbing Piping Insulation                                                         |
| <b>22 08 00</b> | <b>Commissioning of Plumbing</b>                                                   |
| <b>22 09 00</b> | <b>Instrumentation and Control for Plumbing</b>                                    |
| 22 09 63        | Medical Gas Alarms                                                                 |
| <b>22 10 00</b> | <b>Plumbing Piping</b>                                                             |
| <b>22 11 00</b> | <b>Facility Water Distribution</b>                                                 |
| 22 11 13        | Facility Water Distribution Piping                                                 |
| 22 11 16        | Domestic Water Piping                                                              |
| 22 11 17        | Gray-Water Piping                                                                  |
| 22 11 19        | Domestic Water Piping Specialties                                                  |
| 22 11 23        | Domestic Water Pumps                                                               |
| 22 11 23.13     | Domestic-Water Packaged Booster Pumps                                              |
| 22 11 23.23     | Domestic-Water In-Line Pumps                                                       |
| 22 11 23.26     | Close-Coupled, Horizontally Mounted, In-Line Centrifugal Domestic-Water Pumps      |
| 22 11 23.29     | Close-Coupled, Vertically Mounted, In-Line Centrifugal Domestic-Water Pumps        |
| 22 11 23.33     | Separately Coupled, In-Line Centrifugal Domestic-Water Pumps                       |
| 22 11 23.36     | Separately Coupled, Horizontally Mounted, In-Line Centrifugal Domestic-Water Pumps |
| 22 11 23.43     | Domestic-Water, Base-Mounted Pumps                                                 |
| 22 11 63        | Gray-Water Pumps                                                                   |
| <b>22 12 00</b> | <b>Facility Potable-Water Storage Tanks</b>                                        |
| 22 12 13        | Facility Roof-Mounted, Potable-Water Storage Tanks                                 |
| 22 12 16        | Facility Elevated, Potable-Water Storage Tanks                                     |
| 22 12 19        | Facility Ground-Mounted, Potable-Water Storage Tanks                               |
| 22 12 21        | Facility Underground Potable-Water Storage Tanks                                   |
| 22 12 23        | Facility Indoor Potable-Water Storage Tanks                                        |
| 22 12 23.13     | Facility Steel, Indoor Potable-Water Storage Pressure Tanks                        |
| 22 12 23.16     | Facility Steel, Indoor Potable-Water Storage Non-Pressure Tanks                    |
| 22 12 23.23     | Facility Plastic, Indoor Potable-Water Storage Pressure Tanks                      |



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| 22 12 23.26     | Facility Plastic, Indoor Potable-Water Storage Non-Pressure Tanks |
| <b>22 13 00</b> | <b>Facility Sanitary Sewerage</b>                                 |
| 22 13 13        | Facility Sanitary Sewers                                          |
| 22 13 16        | Sanitary Waste and Vent Piping                                    |
| 22 13 19        | Sanitary Waste Piping Specialties                                 |
| 22 13 19.13     | Sanitary Drains                                                   |
| 22 13 19.23     | Fats, Oils, and Grease Disposal Systems                           |
| 22 13 19.26     | Grease Removal Devices                                            |
| 22 13 19.33     | Backwater Valves                                                  |
| 22 13 19.36     | Air-Admittance Valves                                             |
| 22 13 23        | Sanitary Waste Interceptors                                       |
| 22 13 26        | Sanitary Waste Separators                                         |
| 22 13 29        | Sanitary Sewerage Pumps                                           |
| 22 13 29.13     | Wet-Pit-Mounted, Vertical Sewerage Pumps                          |
| 22 13 29.16     | Submersible Sewerage Pumps                                        |
| 22 13 29.23     | Sewerage Pump Reverse-Flow Assemblies                             |
| 22 13 29.33     | Sewerage Pump Basins and Pits                                     |
| 22 13 33        | Packaged, Submersible Sewerage Pump Units                         |
| 22 13 36        | Packaged, Wastewater Pump Units                                   |
| 22 13 43        | Facility Packaged Sewage Pumping Stations                         |
| 22 13 43.13     | Facility Dry-Well Packaged Sewage Pumping Stations                |
| 22 13 43.16     | Facility Wet-Well Packaged Sewage Pumping Stations                |
| 22 13 63        | Facility Gray Water Tanks                                         |
| <b>22 14 00</b> | <b>Facility Storm Drainage</b>                                    |
| 22 14 13        | Facility Storm Drainage Piping                                    |
| 22 14 16        | Rainwater Leaders                                                 |
| 22 14 19        | Sump Pump Discharge Piping                                        |
| 22 14 23        | Storm Drainage Piping Specialties                                 |
| 22 14 26        | Facility Storm Drains                                             |
| 22 14 26.13     | Roof Drains                                                       |
| 22 14 26.16     | Facility Area Drains                                              |
| 22 14 26.19     | Facility Trench Drains                                            |
| 22 14 29        | Sump Pumps                                                        |
| 22 14 29.13     | Wet-Pit-Mounted, Vertical Sump Pumps                              |
| 22 14 29.16     | Submersible Sump Pumps                                            |
| 22 14 29.19     | Sump-Pump Basins and Pits                                         |
| 22 14 33        | Packaged, Pedestal Drainage Pump Units                            |
| 22 14 36        | Packaged, Submersible, Drainage Pump Units                        |
| 22 14 53        | Rainwater Storage Tanks                                           |
| 22 14 63        | Facility Storm-Water Retention Tanks                              |
| <b>22 15 00</b> | <b>General Service Compressed-Air Systems</b>                     |
| 22 15 13        | General Service Compressed-Air Piping                             |
| 22 15 16        | General Service Compressed-Air Valves                             |
| 22 15 19        | General Service Packaged Air Compressors and Receivers            |
| 22 15 19.13     | General Service Packaged Reciprocating Air Compressors            |
| 22 15 19.16     | General Service Packaged Liquid-Ring Air Compressors              |
| 22 15 19.19     | General Service Packaged Rotary-Screw Air Compressors             |
| 22 15 19.23     | General Service Packaged Sliding-Vane Air Compressors             |
| <b>22 30 00</b> | <b>Plumbing Equipment</b>                                         |
| <b>22 31 00</b> | <b>Domestic Water Softeners</b>                                   |
| 22 31 13        | Residential Domestic Water Softeners                              |

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| 22 31 16        | Commercial Domestic Water Softeners                                                        |
| <b>22 32 00</b> | <b>Domestic Water Filtration Equipment</b>                                                 |
| 22 32 13        | Domestic-Water Bag-Type Filters                                                            |
| 22 32 16        | Domestic-Water Freestanding Cartridge Filters                                              |
| 22 32 19        | Domestic-Water Off-Floor Cartridge Filters                                                 |
| 22 32 23        | Domestic-Water Carbon Filters                                                              |
| 22 32 26        | Domestic-Water Sand Filters                                                                |
| 22 32 26.13     | Domestic-Water Circulating Sand Filters                                                    |
| 22 32 26.16     | Domestic-Water Multimedia Sand Filters                                                     |
| 22 32 26.19     | Domestic-Water Greensand Filters                                                           |
| <b>22 33 00</b> | <b>Electric Domestic Water Heaters</b>                                                     |
| 22 33 13        | Instantaneous Electric Domestic Water Heaters                                              |
| 22 33 13.13     | Flow-Control, Instantaneous Electric Domestic Water Heaters                                |
| 22 33 13.16     | Thermostat-Control, Instantaneous Electric Domestic Water Heaters                          |
| 22 33 30        | Residential, Electric Domestic Water Heaters                                               |
| 22 33 30.13     | Residential, Small-Capacity Electric Domestic Water Heaters                                |
| 22 33 30.16     | Residential, Storage Electric Domestic Water Heaters                                       |
| 22 33 30.23     | Residential, Collector-to-Tank, Solar-Electric Domestic Water Heaters                      |
| 22 33 30.26     | Residential, Collector-to-Tank, Heat-Exchanger-Coil, Solar-Electric Domestic Water Heaters |
| 22 33 33        | Light-Commercial Electric Domestic Water Heaters                                           |
| 22 33 36        | Commercial Domestic Water Electric Booster Heaters                                         |
| 22 33 36.13     | Commercial Domestic Water Electric Booster Heaters                                         |
| 22 33 36.16     | Commercial Storage Electric Domestic Water Heaters                                         |
| <b>22 34 00</b> | <b>Fuel-Fired Domestic Water Heaters</b>                                                   |
| 22 34 13        | Instantaneous, Tankless, Gas Domestic Water Heaters                                        |
| 22 34 30        | Residential Gas Domestic Water Heaters                                                     |
| 22 34 30.13     | Residential, Atmospheric, Gas Domestic Water Heaters                                       |
| 22 34 30.16     | Residential, Direct-Vent, Gas Domestic Water Heaters                                       |
| 22 34 30.19     | Residential, Power-Vent, Gas Domestic Water Heaters                                        |
| 22 34 36        | Commercial Gas Domestic Water Heaters                                                      |
| 22 34 36.13     | Commercial, Atmospheric, Gas Domestic Water Heaters                                        |
| 22 34 36.16     | Commercial, Power-Burner, Gas Domestic Water Heaters                                       |
| 22 34 36.19     | Commercial, Power-Vent, Gas Domestic Water Heaters                                         |
| 22 34 36.23     | Commercial, High-Efficiency, Gas Domestic Water Heaters                                    |
| 22 34 36.26     | Commercial, Coil-Type, Finned-Tube, Gas Domestic Water Heaters                             |
| 22 34 36.29     | Commercial, Grid-Type, Finned-Tube, Gas Domestic Water Heaters                             |
| 22 34 46        | Oil-Fired Domestic Water Heaters                                                           |
| 22 34 46.13     | Large-Capacity, Oil-Fired Domestic Water Heaters                                           |
| 22 34 56        | Dual-Fuel-Fired Domestic Water Heaters                                                     |
| <b>22 35 00</b> | <b>Domestic Water Heat Exchangers</b>                                                      |
| 22 35 13        | Instantaneous Domestic Water Heat Exchangers                                               |
| 22 35 13.13     | Heating-Fluid-in-Coil, Instantaneous Domestic Water Heat Exchangers                        |
| 22 35 13.16     | Domestic-Water-in-Coil, Instantaneous Domestic Water Heat Exchangers                       |
| 22 35 13.19     | Heating-Fluid-in-U-Tube-Coil, Instantaneous Domestic Water Heat Exchangers                 |
| 22 35 23        | Circulating, Domestic Water Heat Exchangers                                                |
| 22 35 23.13     | Circulating, Compact Domestic Water Heat Exchangers                                        |
| 22 35 23.16     | Circulating, Storage Domestic Water Heat Exchangers                                        |
| 22 35 29        | Noncirculating, Domestic Water Heat Exchangers                                             |
| 22 35 29.13     | Noncirculating, Compact Domestic Water Heat Exchangers                                     |
| 22 35 29.16     | Noncirculating, Storage Domestic Water Heat Exchangers                                     |
| 22 35 36        | Domestic Water Brazed-Plate Heat Exchangers                                                |

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| 22 35 39        | Domestic Water Frame-and-Plate Heat Exchangers |
| 22 35 43        | Domestic Water Heat Reclaimers                 |
| <b>22 36 00</b> | <b>Domestic Water Preheaters</b>               |
| 22 36 13        | Solar Domestic Water Preheaters                |
| 22 36 23        | Geothermal Domestic Water Preheaters           |
| <b>22 40 00</b> | <b>Plumbing Fixtures</b>                       |
| <b>22 41 00</b> | <b>Residential Plumbing Fixtures</b>           |
| 22 41 13        | Residential Water Closets, Urinals, and Bidets |
| 22 41 13.13     | Residential Water Closets                      |
| 22 41 13.16     | Residential Urinals                            |
| 22 41 13.19     | Residential Bidets                             |
| 22 41 16        | Residential Lavatories and Sinks               |
| 22 41 16.13     | Residential Lavatories                         |
| 22 41 16.16     | Residential Sinks                              |
| 22 41 19        | Residential Bathtubs                           |
| 22 41 23        | Residential Showers                            |
| 22 41 26        | Residential Disposers                          |
| 22 41 36        | Residential Laundry Trays                      |
| 22 41 39        | Residential Faucets, Supplies, and Trim        |
| <b>22 42 00</b> | <b>Commercial Plumbing Fixtures</b>            |
| 22 42 13        | Commercial Water Closets, Urinals, and Bidets  |
| 22 42 13.13     | Commercial Water Closets                       |
| 22 42 13.16     | Commercial Urinals                             |
| 22 42 16        | Commercial Lavatories and Sinks                |
| 22 42 16.13     | Commercial Lavatories                          |
| 22 42 16.16     | Commercial Sinks                               |
| 22 42 19        | Commercial Bathtubs                            |
| 22 42 23        | Commercial Showers                             |
| 22 42 26        | Commercial Disposers                           |
| 22 42 29        | Shampoo Bowls                                  |
| 22 42 33        | Wash Fountains                                 |
| 22 42 36        | Commercial Laundry Trays                       |
| 22 42 39        | Commercial Faucets, Supplies, and Trim         |
| 22 42 43        | Flushometers                                   |
| <b>22 43 00</b> | <b>Healthcare Plumbing Fixtures</b>            |
| 22 43 13        | Healthcare Water Closets                       |
| 22 43 16        | Healthcare Sinks                               |
| 22 43 19        | Healthcare Bathtubs                            |
| 22 43 23        | Healthcare Showers                             |
| 22 43 39        | Healthcare Faucets                             |
| 22 43 43        | Healthcare Plumbing Fixture Flushometers       |
| <b>22 45 00</b> | <b>Emergency Plumbing Fixtures</b>             |
| 22 45 13        | Emergency Showers                              |
| 22 45 16        | Eyewash Equipment                              |
| 22 45 19        | Self-Contained Eyewash Equipment               |
| 22 45 23        | Personal Eyewash Equipment                     |
| 22 45 26        | Eye/Face Wash Equipment                        |
| 22 45 29        | Hand-Held Emergency Drench Hoses               |
| 22 45 33        | Combination Emergency Fixture Units            |
| 22 45 36        | Emergency Fixture Water-Tempering Equipment    |

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| <b>22 46 00</b> | <b>Security Plumbing Fixtures</b>                                      |
| 22 46 13        | Security Water Closets and Urinals                                     |
| 22 46 13.13     | Security Water Closets                                                 |
| 22 46 13.16     | Security Urinals                                                       |
| 22 46 16        | Security Lavatories and Sinks                                          |
| 22 46 16.13     | Security Lavatories                                                    |
| 22 46 16.16     | Security Sinks                                                         |
| 22 46 19        | Security Showers                                                       |
| 22 46 39        | Security Faucets, Supplies, and Trim                                   |
| 22 46 43        | Security Plumbing Fixture Flushometers                                 |
| 22 46 53        | Security Plumbing Fixture Supports                                     |
| <b>22 47 00</b> | <b>Drinking Fountains and Water Coolers</b>                            |
| 22 47 13        | Drinking Fountains                                                     |
| 22 47 16        | Pressure Water Coolers                                                 |
| 22 47 19        | Water-Station Water Coolers                                            |
| 22 47 23        | Remote Water Coolers                                                   |
| <b>22 50 00</b> | <b>Pool and Fountain Plumbing Systems</b>                              |
| <b>22 51 00</b> | <b>Swimming Pool Plumbing Systems</b>                                  |
| 22 51 13        | Swimming Pool Piping                                                   |
| 22 51 16        | Swimming Pool Pumps                                                    |
| 22 51 19        | Swimming Pool Water Treatment Equipment                                |
| 22 51 23        | Swimming Pool Equipment Controls                                       |
| <b>22 52 00</b> | <b>Fountain Plumbing Systems</b>                                       |
| 22 52 13        | Fountain Piping                                                        |
| 22 52 16        | Fountain Pumps                                                         |
| 22 52 19        | Fountain Water Treatment Equipment                                     |
| 22 52 23        | Fountain Equipment Controls                                            |
| <b>22 60 00</b> | <b>Gas and Vacuum Systems for Laboratory and Healthcare Facilities</b> |
| <b>22 61 00</b> | <b>Compressed-Air Systems for Laboratory and Healthcare Facilities</b> |
| 22 61 13        | Compressed-Air Piping for Laboratory and Healthcare Facilities         |
| 22 61 13.53     | Laboratory Compressed-Air Piping                                       |
| 22 61 13.70     | Healthcare Compressed-Air Piping                                       |
| 22 61 13.74     | Dental Compressed-Air Piping                                           |
| 22 61 19        | Compressed-Air Equipment for Laboratory and Healthcare Facilities      |
| 22 61 19.53     | Laboratory Compressed-Air Equipment                                    |
| 22 61 19.70     | Healthcare Compressed-Air Equipment                                    |
| 22 61 19.74     | Dental Compressed-Air Equipment                                        |
| <b>22 62 00</b> | <b>Vacuum Systems for Laboratory and Healthcare Facilities</b>         |
| 22 62 13        | Vacuum Piping for Laboratory and Healthcare Facilities                 |
| 22 62 13.53     | Laboratory Vacuum Piping                                               |
| 22 62 13.70     | Healthcare, Surgical Vacuum Piping                                     |
| 22 62 13.74     | Dental Vacuum Piping                                                   |
| 22 62 19        | Vacuum Equipment for Laboratory and Healthcare Facilities              |
| 22 62 19.53     | Laboratory Vacuum Equipment                                            |
| 22 62 19.70     | Healthcare Vacuum Equipment                                            |

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| 22 62 19.74     | Dental Vacuum and Evacuation Equipment                                     |
| 22 62 23        | Waste Anesthesia-Gas Piping                                                |
| <b>22 63 00</b> | <b>Gas Systems for Laboratory and Healthcare Facilities</b>                |
| 22 63 13        | Gas Piping for Laboratory and Healthcare Facilities                        |
| 22 63 13.53     | Laboratory Gas Piping                                                      |
| 22 63 13.70     | Healthcare Gas Piping                                                      |
| 22 63 19        | Gas Storage Tanks for Laboratory and Healthcare Facilities                 |
| 22 63 19.53     | Laboratory Gas Storage Tanks                                               |
| 22 63 19.70     | Healthcare Gas Storage Tanks                                               |
| <b>22 66 00</b> | <b>Chemical-Waste Systems for Laboratory and Healthcare Facilities</b>     |
| 22 66 53        | Laboratory Chemical-Waste and Vent Piping                                  |
| 22 66 70        | Healthcare Chemical-Waste and Vent Piping                                  |
| 22 66 83        | Chemical-Waste Tanks                                                       |
| 22 66 83.13     | Chemical-Waste Dilution Tanks                                              |
| 22 66 83.16     | Chemical-Waste Neutralization Tanks                                        |
| <b>22 67 00</b> | <b>Processed Water Systems for Laboratory and Healthcare Facilities</b>    |
| 22 67 13        | Processed Water Piping for Laboratory and Healthcare Facilities            |
| 22 67 13.13     | Distilled-Water Piping                                                     |
| 22 67 13.16     | Reverse-Osmosis Water Piping                                               |
| 22 67 13.19     | Deionized-Water Piping                                                     |
| 22 67 19        | Processed Water Equipment for Laboratory and Healthcare Facilities         |
| 22 67 19.13     | Distilled-Water Equipment                                                  |
| 22 67 19.16     | Reverse-Osmosis Water Equipment                                            |
| 22 67 19.19     | Deionized-Water Equipment                                                  |
| <b>23 00 00</b> | <b>Heating, Ventilating, and Air Conditioning (HVAC)</b>                   |
| <b>23 01 00</b> | <b>Operation and Maintenance of HVAC Systems</b>                           |
| 23 01 10        | Operation and Maintenance of Facility Fuel Systems                         |
| 23 01 20        | Operation and Maintenance of HVAC Piping and Pumps                         |
| 23 01 30        | Operation and Maintenance of HVAC Air Distribution                         |
| 23 01 30.51     | HVAC Air-Distribution System Cleaning                                      |
| 23 01 50        | Operation and Maintenance of Central Heating Equipment                     |
| 23 01 60        | Operation and Maintenance of Central Cooling Equipment                     |
| 23 01 60.71     | Refrigerant Recovery/Recycling                                             |
| 23 01 70        | Operation and Maintenance of Central HVAC Equipment                        |
| 23 01 80        | Operation and Maintenance of Decentralized HVAC Equipment                  |
| 23 01 90        | Diagnostic Systems for HVAC                                                |
| <b>23 05 00</b> | <b>Common Work Results for HVAC</b>                                        |
| 23 05 05        | Selective Demolition for Heating, Ventilating, and Air Conditioning (HVAC) |
| 23 05 13        | Common Motor Requirements for HVAC Equipment                               |
| 23 05 16        | Expansion Fittings and Loops for HVAC Piping                               |
| 23 05 17        | Sleeves and Sleeve Seals for HVAC Piping                                   |
| 23 05 19        | Meters and Gages for HVAC Piping                                           |
| 23 05 23        | General-Duty Valves for HVAC Piping                                        |
| 23 05 29        | Hangers and Supports for HVAC Piping and Equipment                         |
| 23 05 33        | Heat Tracing for HVAC Piping                                               |
| 23 05 48        | Vibration and Seismic Controls for HVAC                                    |

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| 23 05 48.13     | Vibration Controls for HVAC                                      |
| 23 05 53        | Identification for HVAC Piping and Equipment                     |
| 23 05 63        | Anti-Microbial Coatings for HVAC Ducts and Equipment             |
| 23 05 66        | Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment |
| 23 05 93        | Testing, Adjusting, and Balancing for HVAC                       |
| <b>23 06 00</b> | <b>Schedules for HVAC</b>                                        |
| 23 06 10        | Schedules for Facility Fuel Service Systems                      |
| 23 06 20        | Schedules for HVAC Piping and Pumps                              |
| 23 06 20.13     | Hydronic Pump Schedule                                           |
| 23 06 30        | Schedules for HVAC Air Distribution                              |
| 23 06 30.13     | HVAC Fan Schedule                                                |
| 23 06 30.16     | Air Terminal Unit Schedule                                       |
| 23 06 30.19     | Air Outlet and Inlet Schedule                                    |
| 23 06 30.23     | HVAC Air Cleaning Device Schedule                                |
| 23 06 50        | Schedules for Central Heating Equipment                          |
| 23 06 50.13     | Heating Boiler Schedule                                          |
| 23 06 60        | Schedules for Central Cooling Equipment                          |
| 23 06 60.13     | Refrigerant Condenser Schedule                                   |
| 23 06 60.16     | Packaged Water Chiller Schedule                                  |
| 23 06 70        | Schedules for Central HVAC Equipment                             |
| 23 06 70.13     | Indoor, Central-Station Air-Handling Unit Schedule               |
| 23 06 70.16     | Packaged Outdoor HVAC Equipment Schedule                         |
| 23 06 80        | Schedules for Decentralized HVAC Equipment                       |
| 23 06 80.13     | Decentralized Unitary HVAC Equipment Schedule                    |
| 23 06 80.16     | Convection Heating and Cooling Unit Schedule                     |
| 23 06 80.19     | Radiant Heating Unit Schedule                                    |
| <b>23 07 00</b> | <b>HVAC Insulation</b>                                           |
| 23 07 13        | Duct Insulation                                                  |
| 23 07 16        | HVAC Equipment Insulation                                        |
| 23 07 19        | HVAC Piping Insulation                                           |
| <b>23 08 00</b> | <b>Commissioning of HVAC</b>                                     |
| <b>23 09 00</b> | <b>Instrumentation and Control for HVAC</b>                      |
| 23 09 13        | Instrumentation and Control Devices for HVAC                     |
| 23 09 13.13     | Actuators and Operators                                          |
| 23 09 13.23     | Sensors and Transmitters                                         |
| 23 09 13.33     | Control Valves                                                   |
| 23 09 13.43     | Control Dampers                                                  |
| 23 09 23        | Direct-Digital Control System for HVAC                           |
| 23 09 23.11     | Control Valves                                                   |
| 23 09 23.12     | Control Dampers                                                  |
| 23 09 23.13     | Energy Meters                                                    |
| 23 09 23.14     | Flow Instruments                                                 |
| 23 09 23.16     | Gas Instruments                                                  |
| 23 09 23.17     | Level Instruments                                                |
| 23 09 23.18     | Leak Detection Instruments                                       |
| 23 09 23.19     | Moisture Instruments                                             |
| 23 09 23.21     | Motion Instruments                                               |
| 23 09 23.22     | Position Instruments                                             |
| 23 09 23.23     | Pressure Instruments                                             |
| 23 09 23.24     | Speed Instruments                                                |
| 23 09 23.27     | Temperature Instruments                                          |
| 23 09 23.33     | Vibration Instruments                                            |
| 23 09 23.43     | Weather Stations                                                 |

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| 23 09 33        | Electric and Electronic Control System for HVAC                     |
| 23 09 43        | Pneumatic Control System for HVAC                                   |
| 23 09 53        | Pneumatic and Electric Control System for HVAC                      |
| 23 09 93        | Sequence of Operations for HVAC Controls                            |
| 23 09 93.11     | Sequence of Operation for HVAC DDC                                  |
| <b>23 10 00</b> | <b>Facility Fuel Systems</b>                                        |
| <b>23 11 00</b> | <b>Facility Fuel Piping</b>                                         |
| 23 11 13        | Facility Fuel-Oil Piping                                            |
| 23 11 16        | Facility Gasoline Piping                                            |
| 23 11 23        | Facility Natural-Gas Piping                                         |
| 23 11 26        | Facility Liquefied-Petroleum Gas Piping                             |
| <b>23 12 00</b> | <b>Facility Fuel Pumps</b>                                          |
| 23 12 13        | Facility Fuel-Oil Pumps                                             |
| 23 12 16        | Facility Gasoline Dispensing Pumps                                  |
| 23 12 26        | Facility Liquefied-Petroleum Gas Pumps                              |
| <b>23 13 00</b> | <b>Facility Fuel-Storage Tanks</b>                                  |
| 23 13 13        | Facility Underground Fuel-Oil, Storage Tanks                        |
| 23 13 13.13     | Double-Wall Steel, Underground Fuel-Oil, Storage Tanks              |
| 23 13 13.16     | Composite, Steel, Underground Fuel-Oil, Storage Tanks               |
| 23 13 13.19     | Jacketed, Steel, Underground Fuel-Oil, Storage Tanks                |
| 23 13 13.23     | Glass-Fiber-Reinforced-Plastic, Underground Fuel-Oil, Storage Tanks |
| 23 13 13.33     | Fuel-Oil Storage Tank Pumps                                         |
| 23 13 23        | Facility Aboveground Fuel-Oil, Storage Tanks                        |
| 23 13 23.13     | Vertical, Steel, Aboveground Fuel-Oil, Storage Tanks                |
| 23 13 23.16     | Horizontal, Steel, Aboveground Fuel-Oil, Storage Tanks              |
| 23 13 23.19     | Containment-Dike, Steel, Aboveground Fuel-Oil, Storage Tanks        |
| 23 13 23.23     | Insulated, Steel, Aboveground Fuel-Oil, Storage Tanks               |
| 23 13 23.26     | Concrete-Vaulted, Steel, Aboveground Fuel-Oil, Storage Tanks        |
| 23 13 26        | Facility Aboveground Liquefied-Petroleum Gas Storage Tanks          |
| <b>23 20 00</b> | <b>HVAC Piping and Pumps</b>                                        |
| <b>23 21 00</b> | <b>Hydronic Piping and Pumps</b>                                    |
| 23 21 13        | Hydronic Piping                                                     |
| 23 21 13.13     | Underground Hydronic Piping                                         |
| 23 21 13.23     | Aboveground Hydronic Piping                                         |
| 23 21 13.33     | Ground-Loop Heat-Pump Piping                                        |
| 23 21 16        | Hydronic Piping Specialties                                         |
| 23 21 23        | Hydronic Pumps                                                      |
| 23 21 23.13     | In-Line Centrifugal Hydronic Pumps                                  |
| 23 21 23.16     | Base-Mounted, Centrifugal Hydronic Pumps                            |
| 23 21 23.19     | Vertical-Mounted, Double-Suction Centrifugal Hydronic Pumps         |
| 23 21 23.23     | Vertical-Turbine Hydronic Pumps                                     |
| 23 21 29        | Automatic Condensate Pump Units                                     |
| <b>23 22 00</b> | <b>Steam and Condensate Piping and Pumps</b>                        |
| 23 22 13        | Steam and Condensate Heating Piping                                 |
| 23 22 13.13     | Underground Steam and Condensate Heating Piping                     |
| 23 22 13.23     | Aboveground Steam and Condensate Heating Piping                     |
| 23 22 16        | Steam and Condensate Heating Piping Specialties                     |
| 23 22 23        | Steam Condensate Pumps                                              |
| 23 22 23.13     | Electric-Driven Steam Condensate Pumps                              |
| 23 22 23.23     | Pressure-Powered Steam Condensate Pumps                             |

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| <b>23 23 00</b> | <b>Refrigerant Piping</b>                                 |
| 23 23 13        | Refrigerant Piping Valves                                 |
| 23 23 16        | Refrigerant Piping Specialties                            |
| 23 23 19        | Refrigerant Safety Relief Valve Discharge Piping          |
| 23 23 23        | Refrigerants                                              |
| <b>23 24 00</b> | <b>Internal-Combustion Engine Piping</b>                  |
| 23 24 13        | Internal-Combustion Engine Remote-Radiator Coolant Piping |
| 23 24 16        | Internal-Combustion Engine Exhaust Piping                 |
| <b>23 25 00</b> | <b>HVAC Water Treatment</b>                               |
| 23 25 13        | Water Treatment for Closed-Loop Hydronic Systems          |
| 23 25 16        | Water Treatment for Open Hydronic Systems                 |
| 23 25 19        | Water Treatment for Steam System Feedwater                |
| 23 25 23        | Water Treatment for Humidification Steam System Feedwater |
| 23 25 33        | HVAC Makeup-Water Filtration Equipment                    |
| <b>23 30 00</b> | <b>HVAC Air Distribution</b>                              |
| <b>23 31 00</b> | <b>HVAC Ducts and Casings</b>                             |
| 23 31 13        | Metal Ducts                                               |
| 23 31 13.13     | Rectangular Metal Ducts                                   |
| 23 31 13.16     | Round and Flat-Oval Spiral Ducts                          |
| 23 31 13.19     | Metal Duct Fittings                                       |
| 23 31 16        | Nonmetal Ducts                                            |
| 23 31 16.13     | Fibrous-Glass Ducts                                       |
| 23 31 16.16     | Thermoset Fiberglass-Reinforced Plastic Ducts             |
| 23 31 16.19     | PVC Ducts                                                 |
| 23 31 16.26     | Concrete Ducts                                            |
| 23 31 19        | HVAC Casings                                              |
| <b>23 32 00</b> | <b>Air Plenums and Chases</b>                             |
| 23 32 13        | Fabricated, Metal Air Plenums                             |
| 23 32 33        | Air-Distribution Ceiling Plenums                          |
| 23 32 36        | Air-Distribution Floor Plenums                            |
| 23 32 39        | Air-Distribution Wall Plenums                             |
| 23 32 43        | Air-Distribution Chases Formed by General Construction    |
| 23 32 48        | Acoustical Air Plenums                                    |
| <b>23 33 00</b> | <b>Air Duct Accessories</b>                               |
| 23 33 13        | Dampers                                                   |
| 23 33 13.13     | Volume-Control Dampers                                    |
| 23 33 13.16     | Fire Dampers                                              |
| 23 33 13.19     | Smoke-Control Dampers                                     |
| 23 33 13.23     | Backdraft Dampers                                         |
| 23 33 19        | Duct Silencers                                            |
| 23 33 23        | Turning Vanes                                             |
| 23 33 33        | Duct-Mounting Access Doors                                |
| 23 33 38        | Duct Security Bars                                        |
| 23 33 43        | Flexible Connectors                                       |
| 23 33 46        | Flexible Ducts                                            |
| 23 33 53        | Duct Liners                                               |
| <b>23 34 00</b> | <b>HVAC Fans</b>                                          |
| 23 34 13        | Axial HVAC Fans                                           |
| 23 34 16        | Centrifugal HVAC Fans                                     |



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| 23 34 23        | HVAC Power Ventilators                           |
| 23 34 33        | Air Curtains                                     |
| 23 34 39        | High-Volume, Low-Speed Propeller Fans            |
| <b>23 35 00</b> | <b>Special Exhaust Systems</b>                   |
| 23 35 13        | Dust Collection Systems                          |
| 23 35 13.13     | Sawdust Collection Systems                       |
| 23 35 16        | Engine Exhaust Systems                           |
| 23 35 16.13     | Positive-Pressure Engine Exhaust Systems         |
| 23 35 16.16     | Mechanical Engine Exhaust Systems                |
| 23 35 33        | Listed Kitchen Ventilation Exhaust System        |
| <b>23 36 00</b> | <b>Air Terminal Units</b>                        |
| 23 36 13        | Constant-Air-Volume Units                        |
| 23 36 16        | Variable-Air-Volume Units                        |
| <b>23 37 00</b> | <b>Air Outlets and Inlets</b>                    |
| 23 37 13        | Diffusers, Registers, and Grilles                |
| 23 37 13.43     | Security Registers and Grilles                   |
| 23 37 16        | Fabric Air Distribution Devices                  |
| 23 37 23        | HVAC Gravity Ventilators                         |
| 23 37 23.13     | HVAC Gravity Dome Ventilators                    |
| 23 37 23.16     | HVAC Gravity Louvered-Penthouse Ventilators      |
| 23 37 23.19     | HVAC Gravity Upblast Ventilators                 |
| <b>23 38 00</b> | <b>Ventilation Hoods</b>                         |
| 23 38 13        | Commercial-Kitchen Hoods                         |
| 23 38 13.13     | Listed Commercial-Kitchen Hoods                  |
| 23 38 13.16     | Standard Commercial-Kitchen Hoods                |
| 23 38 16        | Fume Hoods                                       |
| <b>23 40 00</b> | <b>HVAC Air Cleaning Devices</b>                 |
| <b>23 41 00</b> | <b>Particulate Air Filtration</b>                |
| 23 41 13        | Panel Air Filters                                |
| 23 41 16        | Renewable-Media Air Filters                      |
| 23 41 19        | Washable Air Filters                             |
| 23 41 23        | Extended Surface Filters                         |
| 23 41 33        | High-Efficiency Particulate Filtration           |
| 23 41 43        | Ultra-Low Penetration Filtration                 |
| 23 41 46        | Super Ultra-Low Penetration Filtration           |
| <b>23 42 00</b> | <b>Gas-Phase Air Filtration</b>                  |
| 23 42 13        | Activated-Carbon Air Filtration                  |
| 23 42 16        | Chemically-Impregnated Adsorption Air Filtration |
| 23 42 19        | Catalytic-Adsorption Air Filtration              |
| <b>23 43 00</b> | <b>Electronic Air Cleaners</b>                   |
| 23 43 13        | Washable Electronic Air Cleaners                 |
| 23 43 16        | Agglomerator Electronic Air Cleaners             |
| 23 43 23        | Self-Contained Electronic Air Cleaners           |
| <b>23 50 00</b> | <b>Central Heating Equipment</b>                 |
| <b>23 51 00</b> | <b>Breechings, Chimneys, and Stacks</b>          |
| 23 51 13        | Draft Control Devices                            |
| 23 51 13.11     | Draft Control Fans                               |
| 23 51 13.13     | Draft-Induction Fans                             |

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| 23 51 13.16     | Vent Dampers                              |
| 23 51 13.19     | Barometric Dampers                        |
| 23 51 16        | Fabricated Breechings and Accessories     |
| 23 51 19        | Fabricated Stacks                         |
| 23 51 23        | Gas Vents                                 |
| 23 51 33        | Insulated Sectional Chimneys              |
| 23 51 43        | Flue-Gas Filtration Equipment             |
| 23 51 43.13     | Gaseous Filtration                        |
| 23 51 43.16     | Particulate Filtration                    |
| <b>23 52 00</b> | <b>Heating Boilers</b>                    |
| 23 52 13        | Electric Boilers                          |
| 23 52 16        | Condensing Boilers                        |
| 23 52 16.13     | Stainless-Steel Condensing Boilers        |
| 23 52 16.16     | Aluminum Condensing Boilers               |
| 23 52 17        | Low Mass Boilers                          |
| 23 52 19        | Pulse Combustion Boilers                  |
| 23 52 23        | Cast-Iron Boilers                         |
| 23 52 33        | Water-Tube Boilers                        |
| 23 52 33.13     | Finned Water-Tube Boilers                 |
| 23 52 33.14     | Flexible Water-Tube Boilers               |
| 23 52 33.16     | Steel Water-Tube Boilers                  |
| 23 52 33.19     | Copper Water-Tube Boilers                 |
| 23 52 39        | Fire-Tube Boilers                         |
| 23 52 39.13     | Scotch Marine Boilers                     |
| 23 52 39.16     | Steel Fire-Tube Boilers                   |
| 23 52 83        | Boiler Blowdown Systems                   |
| <b>23 53 00</b> | <b>Heating Boiler Feedwater Equipment</b> |
| 23 53 13        | Boiler Feedwater Pumps                    |
| 23 53 16        | Deaerators                                |
| <b>23 54 00</b> | <b>Furnaces</b>                           |
| 23 54 13        | Electric-Resistance Furnaces              |
| 23 54 16        | Fuel-Fired Furnaces                       |
| 23 54 16.13     | Gas-Fired Furnaces                        |
| 23 54 16.16     | Oil-Fired Furnaces                        |
| <b>23 55 00</b> | <b>Fuel-Fired Heaters</b>                 |
| 23 55 13        | Fuel-Fired Duct Heaters                   |
| 23 55 13.13     | Oil-Fired Duct Heaters                    |
| 23 55 13.16     | Gas-Fired Duct Heaters                    |
| 23 55 23        | Gas-Fired Radiant Heaters                 |
| 23 55 23.13     | Low-Intensity Gas-Fired Radiant Heaters   |
| 23 55 23.16     | High-Intensity Gas-Fired Radiant Heaters  |
| 23 55 33        | Fuel-Fired Unit Heaters                   |
| 23 55 33.13     | Oil-Fired Unit Heaters                    |
| 23 55 33.16     | Gas-Fired Unit Heaters                    |
| <b>23 56 00</b> | <b>Solar Energy Heating Equipment</b>     |
| 23 56 13        | Heating Solar Collectors                  |
| 23 56 13.13     | Heating Solar Flat-Plate Collectors       |
| 23 56 13.16     | Heating Solar Concentrating Collectors    |
| 23 56 13.19     | Heating Solar Vacuum-Tube Collectors      |
| 23 56 16        | Packaged Solar Heating Equipment          |
| 23 56 23        | Solar Air-Heating Panels                  |

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| <b>23 57 00</b> | <b>Heat Exchangers for HVAC</b>                                  |
| 23 57 13        | Steam-to-Steam Heat Exchangers                                   |
| 23 57 16        | Steam-to-Water Heat Exchangers                                   |
| 23 57 19        | Liquid-to-Liquid Heat Exchangers                                 |
| 23 57 19.13     | Plate-Type, Liquid-to-Liquid Heat Exchangers                     |
| 23 57 19.16     | Shell-Type, Liquid-to-Liquid Heat Exchangers                     |
| 23 57 33        | Direct Geoechange Heat Exchangers                                |
| <b>23 60 00</b> | <b>Central Cooling Equipment</b>                                 |
| <b>23 61 00</b> | <b>Refrigerant Compressors</b>                                   |
| 23 61 13        | Centrifugal Refrigerant Compressors                              |
| 23 61 13.13     | Non-Condensable Gas Purge Equipment                              |
| 23 61 16        | Reciprocating Refrigerant Compressors                            |
| 23 61 19        | Scroll Refrigerant Compressors                                   |
| 23 61 23        | Rotary-Screw Refrigerant Compressors                             |
| <b>23 62 00</b> | <b>Packaged Compressor and Condenser Units</b>                   |
| 23 62 13        | Packaged Air-Cooled Refrigerant Compressor and Condenser Units   |
| 23 62 23        | Packaged Water-Cooled Refrigerant Compressor and Condenser Units |
| 23 62 46        | Packaged Variable-Refrigerant-Flow Air-Conditioning Systems      |
| <b>23 63 00</b> | <b>Refrigerant Condensers</b>                                    |
| 23 63 13        | Air-Cooled Refrigerant Condensers                                |
| 23 63 23        | Water-Cooled Refrigerant Condensers                              |
| 23 63 33        | Evaporative Refrigerant Condensers                               |
| <b>23 64 00</b> | <b>Packaged Water Chillers</b>                                   |
| 23 64 13        | Absorption Water Chillers                                        |
| 23 64 13.13     | Direct-Fired Absorption Water Chillers                           |
| 23 64 13.16     | Indirect-Fired Absorption Water Chillers                         |
| 23 64 16        | Centrifugal Water Chillers                                       |
| 23 64 16.13     | Air-Cooled Centrifugal Water Chillers                            |
| 23 64 16.16     | Water-Cooled Centrifugal Water Chillers                          |
| 23 64 19        | Reciprocating Water Chillers                                     |
| 23 64 23        | Scroll Water Chillers                                            |
| 23 64 23.13     | Air-Cooled Scroll Water Chillers                                 |
| 23 64 23.16     | Water-Cooled Scroll Water Chillers                               |
| 23 64 26        | Rotary-Screw Water Chillers                                      |
| 23 64 26.13     | Air-Cooled, Rotary-Screw Water Chillers                          |
| 23 64 26.16     | Water-Cooled, Rotary-Screw Water Chillers                        |
| 23 64 33        | Modular Water Chillers                                           |
| 23 64 33.13     | Air-Cooled, Modular Water Chillers                               |
| 23 64 33.16     | Water-Cooled, Modular Water Chillers                             |
| <b>23 65 00</b> | <b>Cooling Towers</b>                                            |
| 23 65 13        | Forced-Draft Cooling Towers                                      |
| 23 65 13.13     | Open-Circuit, Forced-Draft Cooling Towers                        |
| 23 65 13.16     | Closed-Circuit, Forced-Draft Cooling Towers                      |
| 23 65 14        | Induced-Draft Cooling Towers                                     |
| 23 65 14.13     | Open-Circuit, Induced-Draft Counterflow Cooling Towers           |
| 23 65 14.14     | Open-Circuit, Induced-Draft Crossflow Cooling Towers             |
| 23 65 14.16     | Closed-Circuit, Induced-Draft Counterflow Cooling Towers         |
| 23 65 14.17     | Closed-Circuit, Induced-Draft Combined-Flow Cooling Towers       |
| 23 65 16        | Natural-Draft Cooling Towers                                     |
| 23 65 23        | Field-Erected Cooling Towers                                     |

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|-----------------|-----------------------------------------------------------------------|
| 23 65 33        | Liquid Coolers                                                        |
| <b>23 70 00</b> | <b>Central HVAC Equipment</b>                                         |
| <b>23 71 00</b> | <b>Thermal Storage</b>                                                |
| 23 71 13        | Thermal Heat Storage                                                  |
| 23 71 13.13     | Room Storage Heaters for Thermal Storage                              |
| 23 71 13.16     | Heat-Pump Boosters for Thermal Storage                                |
| 23 71 13.19     | Central Furnace Heat-Storage Units                                    |
| 23 71 13.23     | Pressurized-Water Thermal Storage Tanks                               |
| 23 71 16        | Chilled-Water Thermal Storage                                         |
| 23 71 19        | Ice Storage                                                           |
| 23 71 19.13     | Internal Ice-on-Coil Thermal Storage                                  |
| 23 71 19.16     | External Ice-on-Coil Thermal Storage                                  |
| 23 71 19.19     | Encapsulated-Ice Thermal Storage                                      |
| 23 71 19.23     | Ice-Harvesting Thermal Storage                                        |
| 23 71 19.26     | Ice-Slurry Thermal Storage                                            |
| <b>23 72 00</b> | <b>Air-to-Air Energy Recovery Equipment</b>                           |
| 23 72 13        | Heat-Wheel Air-to-Air Energy-Recovery Equipment                       |
| 23 72 16        | Heat-Pipe Air-to-Air Energy-Recovery Equipment                        |
| 23 72 19        | Fixed-Plate Air-to-Air Energy-Recovery Equipment                      |
| 23 72 23        | Packaged Air-to-Air Energy-Recovery Units                             |
| <b>23 73 00</b> | <b>Indoor Central-Station Air-Handling Units</b>                      |
| 23 73 13        | Modular Indoor Central-Station Air-Handling Units                     |
| 23 73 23        | Custom Indoor Central-Station Air-Handling Units                      |
| 23 73 33        | Indoor Indirect Fuel-Fired Heating and Ventilating Units              |
| 23 73 33.13     | Indoor Indirect Oil-Fired Heating and Ventilating Units               |
| 23 73 33.16     | Indoor Indirect Gas-Fired Heating and Ventilating Units               |
| 23 73 39        | Indoor, Direct Gas-Fired Heating and Ventilating Units                |
| <b>23 74 00</b> | <b>Packaged Outdoor HVAC Equipment</b>                                |
| 23 74 13        | Packaged, Outdoor, Central-Station Air-Handling Units                 |
| 23 74 16        | Packaged Rooftop Air-Conditioning Units                               |
| 23 74 16.11     | Packaged, Small-Capacity, Rooftop Air-Conditioning Units              |
| 23 74 16.12     | Packaged, Intermediate-Capacity, Rooftop Air-Conditioning Units       |
| 23 74 16.13     | Packaged, Large-Capacity, Rooftop Air-Conditioning Units              |
| 23 74 23        | Packaged, Outdoor, Heating-Only Makeup-Air Units                      |
| 23 74 23.13     | Packaged, Direct-Fired, Outdoor, Heating-Only Makeup-Air Units        |
| 23 74 23.16     | Packaged, Indirect-Fired, Outdoor, Heating-Only Makeup-Air Units      |
| 23 74 33        | Dedicated Outdoor-Air Units                                           |
| <b>23 75 00</b> | <b>Custom-Packaged Outdoor HVAC Equipment</b>                         |
| 23 75 13        | Custom-Packaged, Outdoor, Central-Station Air-Handling Units          |
| 23 75 16        | Custom-Packaged, Rooftop Air-Conditioning Units                       |
| 23 75 23        | Custom-Packaged, Outdoor, Heating and Ventilating Makeup-Air Units    |
| 23 75 33        | Custom-Packaged, Outdoor, Heating and Cooling Makeup Air-Conditioners |
| <b>23 76 00</b> | <b>Evaporative Air-Cooling Equipment</b>                              |
| 23 76 13        | Direct Evaporative Air Coolers                                        |
| 23 76 16        | Indirect Evaporative Air Coolers                                      |
| 23 76 19        | Combined Direct and Indirect Evaporative Air Coolers                  |
| <b>23 80 00</b> | <b>Decentralized HVAC Equipment</b>                                   |
| <b>23 81 00</b> | <b>Decentralized Unitary HVAC Equipment</b>                           |

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|-----------------|---------------------------------------------------------------------|
| 23 81 13        | Packaged Terminal Air-Conditioners                                  |
| 23 81 13.11     | Packaged Terminal Air-Conditioners, Through-Wall Units              |
| 23 81 13.12     | Packaged Terminal Air-Conditioners, Freestanding Units              |
| 23 81 13.13     | Packaged Terminal Air-Conditioners, Outdoor, Wall-Mounted Units     |
| 23 81 16        | Room Air-Conditioners                                               |
| 23 81 19        | Self-Contained Air-Conditioners                                     |
| 23 81 19.13     | Small-Capacity Self-Contained Air-Conditioners                      |
| 23 81 19.16     | Large-Capacity Self-Contained Air-Conditioners                      |
| 23 81 23        | Computer-Room Air-Conditioners                                      |
| 23 81 23.11     | Small-Capacity, Computer-Room Air-Conditioners, Floor Mounted Units |
| 23 81 23.12     | Large-Capacity, Computer-Room Air-Conditioners, Floor-Mounted Units |
| 23 81 23.13     | Computer-Room Air-Conditioners, Ceiling Mounted Units               |
| 23 81 23.14     | Computer-Room Air-Conditioners, Console Units                       |
| 23 81 23.16     | Computer-Room Air-Conditioners, Rack Mounted, Space-Cooling Units   |
| 23 81 23.18     | Computer-Room, Rack-Cooling Equipment                               |
| 23 81 26        | Split-System Air-Conditioners                                       |
| 23 81 26.13     | Small-Capacity Split-System Air-Conditioners                        |
| 23 81 26.16     | Large-Capacity Split-System Air-Conditioners                        |
| 23 81 29        | Variable Refrigerant Flow HVAC Systems                              |
| 23 81 43        | Air-Source Unitary Heat Pumps                                       |
| 23 81 46        | Water-Source Unitary Heat Pumps                                     |
| 23 81 49        | Ground-Source Unitary Heat Pumps                                    |
| <b>23 82 00</b> | <b>Convection Heating and Cooling Units</b>                         |
| 23 82 13        | Valance Heating and Cooling Units                                   |
| 23 82 14        | Chilled Beams                                                       |
| 23 82 16        | Air Coils                                                           |
| 23 82 16.11     | Hydronic Air Coils                                                  |
| 23 82 16.12     | Steam Air Coils                                                     |
| 23 82 16.13     | Refrigerant Air Coils                                               |
| 23 82 16.14     | Electric-Resistance Air Coils                                       |
| 23 82 19        | Fan Coil Units                                                      |
| 23 82 23        | Unit Ventilators                                                    |
| 23 82 26        | Induction Units                                                     |
| 23 82 29        | Radiators                                                           |
| 23 82 33        | Convectors                                                          |
| 23 82 36        | Finned-Tube Radiation Heaters                                       |
| 23 82 39        | Unit Heaters                                                        |
| 23 82 39.13     | Cabinet Unit Heaters                                                |
| 23 82 39.16     | Propeller Unit Heaters                                              |
| 23 82 39.19     | Wall and Ceiling Unit Heaters                                       |
| 23 82 41        | Water-to-Water Heat Pumps                                           |
| <b>23 83 00</b> | <b>Radiant Heating Units</b>                                        |
| 23 83 13        | Radiant-Heating Electric Cables                                     |
| 23 83 13.16     | Radiant-Heating Electric Mats                                       |
| 23 83 16        | Radiant-Heating Hydronic Piping                                     |
| 23 83 23        | Radiant-Heating Electric Panels                                     |
| 23 83 33        | Electric Radiant Heaters                                            |
| <b>23 84 00</b> | <b>Humidity Control Equipment</b>                                   |
| 23 84 13        | Humidifiers                                                         |
| 23 84 13.13     | Heated-Pan Humidifiers                                              |
| 23 84 13.16     | Wetted-Element Humidifiers                                          |
| 23 84 13.19     | Atomizing Humidifiers                                               |

|             |                                            |
|-------------|--------------------------------------------|
| 23 84 13.23 | Direct-Steam-Injection Humidifiers         |
| 23 84 13.26 | Jacketed, Steam Humidifiers                |
| 23 84 13.29 | Self-Contained Steam Humidifiers           |
| 23 84 13.33 | Portable Humidifiers                       |
| 23 84 16    | Mechanical Dehumidification Units          |
| 23 84 16.13 | Outdoor, Mechanical Dehumidification Units |
| 23 84 16.16 | Indoor, Mechanical Dehumidification Units  |
| 23 84 16.33 | Portable Dehumidifiers                     |
| 23 84 19    | Desiccant Dehumidification Units           |

## **25 00 00 Integrated Automation**

### **25 01 00 Operation and Maintenance of Integrated Automation**

|          |                                                                                         |
|----------|-----------------------------------------------------------------------------------------|
| 25 01 10 | Operation and Maintenance of Integrated Automation Network Equipment                    |
| 25 01 20 | Operation and Maintenance of Integrated Equipment                                       |
| 25 01 30 | Operation and Maintenance of Integrated Automation Instrumentation and Terminal Devices |
| 25 01 90 | Diagnostic Systems for Integrated Automation                                            |

### **25 05 00 Common Work Results for Integrated Automation**

|             |                                                          |
|-------------|----------------------------------------------------------|
| 25 05 05    | Selective Demolition for Integrated Automation           |
| 25 05 13    | Conductors and Cables for Integrated Automation          |
| 25 05 26    | Grounding and Bonding for Integrated Automation          |
| 25 05 28    | Pathways for Integrated Automation                       |
| 25 05 28.29 | Hangers and Supports for Integrated Automation           |
| 25 05 28.33 | Conduits and Backboxes for Integrated Automation         |
| 25 05 28.36 | Cable Trays for Integrated Automation                    |
| 25 05 28.39 | Surface Raceways for Integrated Automation               |
| 25 05 48    | Vibration and Seismic Controls for Integrated Automation |
| 25 05 53    | Identification for Integrated Automation                 |

### **25 06 00 Schedules for Integrated Automation**

|          |                                                                          |
|----------|--------------------------------------------------------------------------|
| 25 06 11 | Schedules for Integrated Automation Network                              |
| 25 06 12 | Schedules for Integrated Automation Network Gateways                     |
| 25 06 13 | Schedules for Integrated Automation Control and Monitoring Network       |
| 25 06 14 | Schedules for Integrated Automation Local Control Units                  |
| 25 06 30 | Schedules for Integrated Automation Instrumentation and Terminal Devices |

### **25 08 00 Commissioning of Integrated Automation**

## **25 10 00 Integrated Automation Network Equipment**

### **25 11 00 Integrated Automation Network Devices**

|          |                                                                            |
|----------|----------------------------------------------------------------------------|
| 25 11 13 | Integrated Automation Network Servers                                      |
| 25 11 16 | Integrated Automation Network Routers, Bridges, Switches, Hubs, and Modems |
| 25 11 19 | Integrated Automation Network Operator Workstations                        |

### **25 12 00 Integrated Automation Network Gateways**

|          |                                                                 |
|----------|-----------------------------------------------------------------|
| 25 12 13 | Hardwired Integration Network Gateways                          |
| 25 12 16 | Direct-Protocol Integration Network Gateways                    |
| 25 12 19 | Neutral-Protocol Integration Network Gateways                   |
| 25 12 23 | Client-Server Information/Database Integration Network Gateways |

### **25 13 00 Integrated Automation Control and Monitoring**

|                 |                                                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------|
|                 | <b>Network</b>                                                                                               |
| 25 13 13        | Integrated Automation Control and Monitoring Network Supervisory Control                                     |
| 25 13 16        | Integrated Automation Control and Monitoring Network Integration Panels                                      |
| 25 13 19        | Integrated Automation Control and Monitoring Network Interoperability                                        |
| <b>25 14 00</b> | <b>Integrated Automation Local Control Units</b>                                                             |
| 25 14 13        | Integrated Automation Remote Control Panels                                                                  |
| 25 14 16        | Integrated Automation Application-Specific Control Panels                                                    |
| 25 14 19        | Integrated Automation Terminal Control Units                                                                 |
| 25 14 23        | Integrated Automation Field Equipment Panels                                                                 |
| <b>25 15 00</b> | <b>Integrated Automation Software</b>                                                                        |
| 25 15 13        | Integrated Automation Software for Network Gateways                                                          |
| 25 15 16        | Integrated Automation Software for Control and Monitoring Networks                                           |
| 25 15 19        | Integrated Automation Software for Local Control Units                                                       |
| <b>25 30 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices</b>                                            |
| <b>25 31 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for Facility Equipment</b>                     |
| <b>25 32 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for Conveying Equipment</b>                    |
| <b>25 33 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for Fire-Suppression Systems</b>               |
| <b>25 34 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for Plumbing</b>                               |
| <b>25 35 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for HVAC</b>                                   |
| 25 35 13        | Integrated Automation Actuators and Operators                                                                |
| 25 35 16        | Integrated Automation Sensors and Transmitters                                                               |
| 25 35 19        | Integrated Automation Control Valves                                                                         |
| 25 35 23        | Integrated Automation Control Dampers                                                                        |
| 25 35 26        | Integrated Automation Compressed Air Supply                                                                  |
| <b>25 36 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for Electrical Systems</b>                     |
| 25 36 13        | Integrated Automation Power Meters                                                                           |
| 25 36 16        | Integrated Automation KW Transducers                                                                         |
| 25 36 19        | Integrated Automation Current Sensors                                                                        |
| 25 36 23        | Integrated Automation Battery Monitors                                                                       |
| 25 36 26        | Integrated Automation Lighting Relays                                                                        |
| 25 36 29        | Integrated Automation UPS Monitors                                                                           |
| <b>25 37 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for Communications Systems</b>                 |
| <b>25 38 00</b> | <b>Integrated Automation Instrumentation and Terminal Devices for Electronic Safety and Security Systems</b> |
| <b>25 50 00</b> | <b>Integrated Automation Facility Controls</b>                                                               |

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|-----------------|-------------------------------------------------------------------------------------------|
| <b>25 51 00</b> | <b>Integrated Automation Control of Facility Equipment</b>                                |
| <b>25 52 00</b> | <b>Integrated Automation Control of Conveying Equipment</b>                               |
| <b>25 53 00</b> | <b>Integrated Automation Control of Fire-Suppression Systems</b>                          |
| <b>25 54 00</b> | <b>Integrated Automation Control of Plumbing</b>                                          |
| <b>25 55 00</b> | <b>Integrated Automation Control of HVAC</b>                                              |
| <b>25 56 00</b> | <b>Integrated Automation Control of Electrical Systems</b>                                |
| <b>25 57 00</b> | <b>Integrated Automation Control of Communications Systems</b>                            |
| <b>25 58 00</b> | <b>Integrated Automation Control of Electronic Safety and Security Systems</b>            |
| <b>25 90 00</b> | <b>Integrated Automation Control Sequences</b>                                            |
| <b>25 91 00</b> | <b>Integrated Automation Control Sequences for Facility Equipment</b>                     |
| <b>25 92 00</b> | <b>Integrated Automation Control Sequences for Conveying Equipment</b>                    |
| <b>25 93 00</b> | <b>Integrated Automation Control Sequences for Fire-Suppression Systems</b>               |
| <b>25 94 00</b> | <b>Integrated Automation Control Sequences for Plumbing</b>                               |
| <b>25 95 00</b> | <b>Integrated Automation Control Sequences for HVAC</b>                                   |
| <b>25 96 00</b> | <b>Integrated Automation Control Sequences for Electrical Systems</b>                     |
| <b>25 97 00</b> | <b>Integrated Automation Control Sequences for Communications Systems</b>                 |
| <b>25 98 00</b> | <b>Integrated Automation Control Sequences for Electronic Safety and Security Systems</b> |
| <b>26 00 00</b> | <b>Electrical</b>                                                                         |
| <b>26 01 00</b> | <b>Operation and Maintenance of Electrical Systems</b>                                    |
| 26 01 10        | Operation and Maintenance of Medium-Voltage Electrical Distribution                       |
| 26 01 20        | Operation and Maintenance of Low-Voltage Electrical Distribution                          |
| 26 01 26        | Maintenance Testing of Electrical Systems                                                 |
| 26 01 30        | Operation and Maintenance of Facility Electrical Power Generating and Storing Equipment   |
| 26 01 40        | Operation and Maintenance of Electrical Protection Systems                                |
| 26 01 40.13     | Operation and Maintenance of Lightning Protection Systems                                 |
| 26 01 50        | Operation and Maintenance of Lighting                                                     |
| 26 01 50.51     | Luminaire Relamping                                                                       |
| 26 01 50.81     | Luminaire Replacement                                                                     |
| <b>26 05 00</b> | <b>Common Work Results for Electrical</b>                                                 |
| 26 05 05        | Selective Demolition for Electrical                                                       |



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|-----------------|--------------------------------------------------------------------------|
| 26 05 13        | Medium-Voltage Cables                                                    |
| 26 05 13.13     | Medium-Voltage Open Conductors                                           |
| 26 05 13.16     | Medium-Voltage, Single- and Multi-Conductor Cables                       |
| 26 05 19        | Low-Voltage Electrical Power Conductors and Cables                       |
| 26 05 19.13     | Undercarpet Electrical Power Cables                                      |
| 26 05 19.23     | Manufactured Wiring Assemblies                                           |
| 26 05 23        | Control-Voltage Electrical Power Cables                                  |
| 26 05 26        | Grounding and Bonding for Electrical Systems                             |
| 26 05 29        | Hangers and Supports for Electrical Systems                              |
| 26 05 33        | Raceway and Boxes for Electrical Systems                                 |
| 26 05 33.13     | Conduit for Electrical Systems                                           |
| 26 05 33.16     | Boxes for Electrical Systems                                             |
| 26 05 33.23     | Surface raceways for Electrical Systems                                  |
| 26 05 36        | Cable Trays for Electrical Systems                                       |
| 26 05 39        | Underfloor Raceways for Electrical Systems                               |
| 26 05 43        | Underground Ducts and Raceways for Electrical Systems                    |
| 26 05 44        | Sleeves and Sleeve Seals for Electrical Raceways and Cabling             |
| 26 05 46        | Poles for Electrical Systems                                             |
| 26 05 48        | Vibration and Seismic Controls for Electrical Systems                    |
| 26 05 48.16     | Seismic Controls for Electrical Systems                                  |
| 26 05 53        | Identification for Electrical Systems                                    |
| 26 05 73        | Power System Studies                                                     |
| 26 05 73.13     | Short-Circuit Studies                                                    |
| 26 05 73.16     | Coordination Studies                                                     |
| 26 05 73.19     | Arc-Flash Hazard Analysis                                                |
| 26 05 73.23     | Load Flow Studies                                                        |
| 26 05 73.26     | Stability Studies                                                        |
| 26 05 73.29     | Harmonic-Analysis Studies                                                |
| 26 05 76        | Photometric Studies                                                      |
| 26 05 83        | Wiring Connections                                                       |
| <b>26 06 00</b> | <b>Schedules for Electrical</b>                                          |
| 26 06 10        | Schedules for Medium-Voltage Electrical Distribution                     |
| 26 06 20        | Schedules for Low-Voltage Electrical Distribution                        |
| 26 06 20.13     | Electrical Switchboard Schedule                                          |
| 26 06 20.16     | Electrical Panelboard Schedule                                           |
| 26 06 20.19     | Electrical Motor-Control Center Schedule                                 |
| 26 06 20.23     | Electrical Circuit Schedule                                              |
| 26 06 20.26     | Wiring Device Schedule                                                   |
| 26 06 30        | Schedules for Facility Electrical Power Generating and Storing Equipment |
| 26 06 40        | Schedules for Electrical Protection Systems                              |
| 26 06 50        | Schedules for Lighting                                                   |
| 26 06 50.13     | Lighting Panelboard Schedule                                             |
| 26 06 50.16     | Lighting Fixture Schedule                                                |
| <b>26 08 00</b> | <b>Commissioning of Electrical Systems</b>                               |
| <b>26 09 00</b> | <b>Instrumentation and Control for Electrical Systems</b>                |
| 26 09 13        | Electrical Power Monitoring                                              |
| 26 09 15        | Peak Load Controllers                                                    |
| 26 09 16        | Electrical Controls and Relays                                           |
| 26 09 17        | Programmable Controllers                                                 |
| 26 09 19        | Enclosed Contactors                                                      |
| 26 09 23        | Lighting Control Devices                                                 |
| 26 09 26        | Lighting Control Panelboards                                             |

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| 26 09 33        | Central Dimming Controls                                       |
| 26 09 33.13     | Multichannel Remote-Controlled Dimmers                         |
| 26 09 33.16     | Remote-Controlled Dimming Stations                             |
| 26 09 36        | Modular Dimming Controls                                       |
| 26 09 36.13     | Manual Modular Dimming Controls                                |
| 26 09 36.16     | Integrated Multipreset Modular Dimming Controls                |
| 26 09 36.19     | Standalone Multipreset Modular Dimming                         |
| 26 09 43        | Network Lighting Controls                                      |
| 26 09 43.13     | Digital-Network Lighting Controls                              |
| 26 09 43.16     | Addressable Luminaire Lighting Controls                        |
| 26 09 43.19     | Wireless Network Lighting Controls                             |
| 26 09 43.23     | Relay-Based Lighting Controls                                  |
| 26 09 61        | Theatrical Lighting Controls                                   |
| <b>26 10 00</b> | <b>Medium-Voltage Electrical Distribution</b>                  |
| <b>26 11 00</b> | <b>Substations</b>                                             |
| 26 11 13        | Primary Unit Substations                                       |
| 26 11 16        | Secondary Unit Substations                                     |
| 26 11 16.11     | Secondary Unit Substations with Switchgear Secondary           |
| 26 11 16.12     | Secondary Unit Substations with Switchboard Secondary          |
| 26 11 16.13     | Secondary Unit Substations with Motor Control Center Secondary |
| <b>26 12 00</b> | <b>Medium-Voltage Transformers</b>                             |
| 26 12 13        | Liquid-Filled, Medium-Voltage Transformers                     |
| 26 12 16        | Dry-Type, Medium-Voltage Transformers                          |
| 26 12 19        | Pad-Mounted, Liquid-Filled, Medium-Voltage Transformers        |
| <b>26 13 00</b> | <b>Medium-Voltage Switchgear</b>                               |
| 26 13 13        | Medium-Voltage Circuit Breaker Switchgear                      |
| 26 13 16        | Medium-Voltage Fusible Interrupter Switchgear                  |
| 26 13 19        | Medium-Voltage Vacuum Interrupter Switchgear                   |
| 26 13 23        | Medium-Voltage Metal-Enclosed Switchgear                       |
| 26 13 26        | Medium-Voltage Metal-Clad Switchgear                           |
| 26 13 29        | Medium-Voltage Compartmentalized Switchgear                    |
| <b>26 15 00</b> | <b>Medium-Voltage Enclosed Bus Assemblies</b>                  |
| 26 15 13        | Medium-Voltage Busways                                         |
| 26 15 16        | Medium-Voltage Cablebus                                        |
| <b>26 16 00</b> | <b>Medium-Voltage Metering</b>                                 |
| <b>26 18 00</b> | <b>Medium-Voltage Circuit Protection Devices</b>               |
| 26 18 13        | Medium-Voltage Cutouts                                         |
| 26 18 16        | Medium-Voltage Fuses                                           |
| 26 18 19        | Medium-Voltage Lightning Arresters                             |
| 26 18 23        | Medium-Voltage Surge Arresters                                 |
| 26 18 26        | Medium-Voltage Reclosers                                       |
| 26 18 29        | Medium-Voltage Enclosed Bus                                    |
| 26 18 33        | Medium-Voltage Enclosed Fuse Cutouts                           |
| 26 18 36        | Medium-Voltage Enclosed Fuses                                  |
| 26 18 39        | Medium-Voltage Motor Controllers                               |
| <b>26 20 00</b> | <b>Low-Voltage Electrical Distribution</b>                     |
| <b>26 21 00</b> | <b>Low-Voltage Electrical Service Entrance</b>                 |
| 26 21 13        | Low-Voltage Overhead Electrical Service Entrance               |
| 26 21 16        | Low-Voltage Underground Electrical Service Entrance            |

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| <b>26 22 00</b> | <b>Low-Voltage Transformers</b>                                   |
| 26 22 13        | Low-Voltage Distribution Transformers                             |
| 26 22 16        | Low-Voltage Buck-Boost Transformers                               |
| 26 22 17        | Low-Voltage Transformers for Nonlinear Loads                      |
| 26 22 18        | Low-Voltage Transformers for Load Centers                         |
| 26 22 19        | Control and Signal Transformers                                   |
| <b>26 23 00</b> | <b>Low-Voltage Switchgear</b>                                     |
| 26 23 13        | Paralleling Low-Voltage Switchgear                                |
| <b>26 24 00</b> | <b>Switchboards and Panelboards</b>                               |
| 26 24 13        | Switchboards                                                      |
| 26 24 16        | Panelboards                                                       |
| 26 24 16.16     | Electronically Operated Circuit-Breaker Panelboards               |
| 26 24 19        | Motor-Control Centers                                             |
| <b>26 25 00</b> | <b>Low-Voltage Enclosed Bus Assemblies</b>                        |
| 26 25 13        | Low-Voltage Busways                                               |
| 26 25 16        | Low-Voltage Cablebus Systems                                      |
| <b>26 27 00</b> | <b>Low-Voltage Distribution Equipment</b>                         |
| 26 27 13        | Electricity Metering                                              |
| 26 27 16        | Electrical Cabinets and Enclosures                                |
| 26 27 19        | Multi-Outlet Assemblies                                           |
| 26 27 23        | Indoor Service Poles                                              |
| 26 27 26        | Wiring Devices                                                    |
| 26 27 33        | Power Distribution Units                                          |
| 26 27 73        | Door Chimes                                                       |
| <b>26 28 00</b> | <b>Low-Voltage Circuit Protective Devices</b>                     |
| 26 28 13        | Fuses                                                             |
| 26 28 16        | Enclosed Switches and Circuit Breakers                            |
| 26 28 16.13     | Enclosed Circuit Breakers                                         |
| 26 28 16.16     | Enclosed Switches                                                 |
| <b>26 29 00</b> | <b>Low-Voltage Controllers</b>                                    |
| 26 29 13        | Enclosed Controllers                                              |
| 26 29 13.13     | Across-the-Line Motor Controllers                                 |
| 26 29 13.16     | Reduced-Voltage Motor Controllers                                 |
| 26 29 23        | Variable-Frequency Motor Controllers                              |
| 26 29 33        | Controllers for Fire Pump Drivers                                 |
| 26 29 33.13     | Full-Service Controllers for Fire Pump Electric-Motor Drivers     |
| 26 29 33.16     | Limited-Service Controllers for Fire Pump Electric-Motor Drivers  |
| 26 29 33.19     | Controllers for Fire Pump Diesel Engine Drivers                   |
| <b>26 30 00</b> | <b>Facility Electrical Power Generating and Storing Equipment</b> |
| <b>26 31 00</b> | <b>Photovoltaic Collectors</b>                                    |
| <b>26 32 00</b> | <b>Packaged Generator Assemblies</b>                              |
| 26 32 13        | Engine Generators                                                 |
| 26 32 13.13     | Diesel-Engine-Driven Generator Sets                               |
| 26 32 13.16     | Gas-Engine-Driven Generator Sets                                  |
| 26 32 13.26     | Gas-Turbine Engine-Driven Generators                              |
| 26 32 16        | Steam-Turbine Generators                                          |
| 26 32 19        | Hydro-Turbine Generators                                          |

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| 26 32 23        | Wind Energy Equipment                                              |
| 26 32 23.13     | Horizontal-Axis Wind Turbines                                      |
| 26 32 23.16     | Vertical-Axis Wind Turbines                                        |
| 26 32 26        | Frequency Changers                                                 |
| 26 32 29        | Rotary Converters                                                  |
| 26 32 33        | Rotary Uninterruptible Power Units                                 |
| 26 32 36        | Resistive Load Banks                                               |
| <b>26 33 00</b> | <b>Battery Equipment</b>                                           |
| 26 33 13        | Batteries                                                          |
| 26 33 16        | Battery Racks                                                      |
| 26 33 19        | Battery Units                                                      |
| 26 33 23        | Central Battery Equipment                                          |
| 26 33 23.13     | Central Battery Equipment for Emergency Lighting                   |
| 26 33 33        | Static Power Converters                                            |
| 26 33 43        | Battery Chargers                                                   |
| 26 33 46        | Battery Monitoring                                                 |
| 26 33 53        | Static Uninterruptible Power Supply                                |
| <b>26 35 00</b> | <b>Power Filters and Conditioners</b>                              |
| 26 35 13        | Capacitors                                                         |
| 26 35 16        | Chokes and Inductors                                               |
| 26 35 23        | Electromagnetic-Interference Filters                               |
| 26 35 26        | Harmonic Filters                                                   |
| 26 35 33        | Power Factor Correction Equipment                                  |
| 26 35 33.13     | Medium-Voltage Power Factor Correction Equipment                   |
| 26 35 33.16     | Low-Voltage Power Factor Correction Equipment                      |
| 26 35 36        | Slip Controllers                                                   |
| 26 35 43        | Static-Frequency Converters                                        |
| 26 35 46        | Radio-Frequency-Interference Filters                               |
| 26 35 53        | Voltage Regulators                                                 |
| <b>26 36 00</b> | <b>Transfer Switches</b>                                           |
| 26 36 13        | Manual Transfer Switches                                           |
| 26 36 23        | Automatic Transfer Switches                                        |
| <b>26 40 00</b> | <b>Electrical Protection</b>                                       |
| <b>26 41 00</b> | <b>Facility Lightning Protection</b>                               |
| 26 41 13        | Lightning Protection for Structures                                |
| 26 41 13.13     | Lightning Protection for Buildings                                 |
| 26 41 16        | Lightning Prevention and Dissipation                               |
| 26 41 19        | Early Streamer Emission Lightning Protection                       |
| 26 41 23        | Lightning Protection Surge Arresters and Suppressors               |
| <b>26 43 00</b> | <b>Surge Protective Devices</b>                                    |
| 26 43 13        | Surge Protective Devices for Low-Voltage Electrical Power Circuits |
| <b>26 50 00</b> | <b>Lighting</b>                                                    |
| <b>26 51 00</b> | <b>Interior Lighting</b>                                           |
| 26 51 13        | Incandescent Interior Lighting                                     |
| 26 51 16        | Fluorescent Interior Lighting                                      |
| 26 51 19        | LED Interior Lighting                                              |
| 26 51 23        | HID Interior Lighting                                              |
| <b>26 52 00</b> | <b>Safety Lighting</b>                                             |

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| 26 52 13        | Emergency and Exit Lighting                                            |
| 26 52 13.13     | Emergency Lighting                                                     |
| 26 52 13.16     | Exit Signs                                                             |
| <b>26 54 00</b> | <b>Classified Location Lighting</b>                                    |
| 26 54 13        | Incandescent Classified Location Lighting                              |
| 26 54 16        | Fluorescent Classified Location Lighting                               |
| 26 54 19        | LED Classified Location Lighting                                       |
| <b>26 55 00</b> | <b>Special Purpose Lighting</b>                                        |
| 26 55 23        | Outline Lighting                                                       |
| 26 55 29        | Underwater Lighting                                                    |
| 26 55 33        | Hazard Warning Lighting                                                |
| 26 55 36        | Obstruction Lighting                                                   |
| 26 55 39        | Helipad Lighting                                                       |
| 26 55 53        | Security Lighting                                                      |
| 26 55 59        | Display Lighting                                                       |
| 26 55 61        | Theatrical Lighting                                                    |
| 26 55 63        | Detention Lighting                                                     |
| 26 55 68        | Athletic Field Lighting                                                |
| 26 55 70        | Healthcare Lighting                                                    |
| 26 55 83        | Broadcast Lighting                                                     |
| <b>26 56 00</b> | <b>Exterior Lighting</b>                                               |
| 26 56 13        | Lighting Poles and Standards                                           |
| 26 56 17        | Fluorescent Exterior Lighting                                          |
| 26 56 18        | Incandescent Exterior Lighting                                         |
| 26 56 19        | LED Exterior Lighting                                                  |
| 26 56 21        | HID Exterior Lighting                                                  |
| <b>27 00 00</b> | <b>Communications</b>                                                  |
| <b>27 01 00</b> | <b>Operation and Maintenance of Communications Systems</b>             |
| 27 01 10        | Operation and Maintenance of Structured Cabling and Enclosures         |
| 27 01 20        | Operation and Maintenance of Data Communications                       |
| 27 01 30        | Operation and Maintenance of Voice Communications                      |
| 27 01 40        | Operation and Maintenance of Audio-Video Communications                |
| 27 01 50        | Operation and Maintenance of Distributed Communications and Monitoring |
| <b>27 05 00</b> | <b>Common Work Results for Communications</b>                          |
| 27 05 05        | Selective Demolition for Communications                                |
| 27 05 11        | Cameras for Audio-Visual Systems                                       |
| 27 05 13        | Communications Services                                                |
| 27 05 13.13     | Dialtone Services                                                      |
| 27 05 13.23     | T1 Services                                                            |
| 27 05 13.33     | DSL Services                                                           |
| 27 05 13.43     | Cable Services                                                         |
| 27 05 13.53     | Satellite Services                                                     |
| 27 05 26        | Grounding and Bonding for Communications Systems                       |
| 27 05 28        | Pathways for Communications Systems                                    |
| 27 05 29        | Hangers and Supports for Communications Systems                        |
| 27 05 33        | Conduits and Backboxes for Communications Systems                      |
| 27 05 36        | Cable Trays for Communications Systems                                 |
| 27 05 39        | Surface Raceways for Communications Systems                            |

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| 27 05 43        | Underground Ducts and Raceways for Communications Systems                |
| 27 05 44        | Sleeves and Sleeve Seals for Communications Pathways and Cabling         |
| 27 05 46        | Utility Poles for Communications Systems                                 |
| 27 05 48        | Vibration and Seismic Controls for Communications Systems                |
| 27 05 48.16     | Seismic Controls for Communications Systems                              |
| 27 05 53        | Identification for Communications Systems                                |
| <b>27 06 00</b> | <b>Schedules for Communications</b>                                      |
| 27 06 10        | Schedules for Structured Cabling and Enclosures                          |
| 27 06 20        | Schedules for Data Communications                                        |
| 27 06 30        | Schedules for Voice Communications                                       |
| 27 06 40        | Schedules for Audio-Video Communications                                 |
| 27 06 50        | Schedules for Distributed Communications and Monitoring                  |
| <b>27 08 00</b> | <b>Commissioning of Communications</b>                                   |
| <b>27 10 00</b> | <b>Structured Cabling</b>                                                |
| <b>27 11 00</b> | <b>Communications Equipment Room Fittings</b>                            |
| 27 11 13        | Communications Entrance Protection                                       |
| 27 11 16        | Communications Cabinets, Racks, Frames, and Enclosures                   |
| 27 11 19        | Communications Termination Blocks and Patch Panels                       |
| 27 11 23        | Communications Cable Management and Ladder Rack                          |
| 27 11 26        | Communications Rack Mounted Power Protection and Power Strips            |
| <b>27 13 00</b> | <b>Communications Backbone Cabling</b>                                   |
| 27 13 13        | Communications Copper Backbone Cabling                                   |
| 27 13 13.13     | Communications Copper Cable Splicing and Terminations                    |
| 27 13 23        | Communications Optical Fiber Backbone Cabling                            |
| 27 13 23.13     | Communications Optical Fiber Splicing and Terminations                   |
| 27 13 33        | Communications Coaxial Backbone Cabling                                  |
| 27 13 33.13     | Communications Coaxial Splicing and Terminations                         |
| 27 13 43        | Communications Services Cabling                                          |
| 27 13 43.13     | Dialtone Services Cabling                                                |
| 27 13 43.23     | T1 Services Cabling                                                      |
| 27 13 43.33     | DSL Services Cabling                                                     |
| 27 13 43.43     | Cable Services Cabling                                                   |
| 27 13 43.53     | Satellite Services Cabling                                               |
| <b>27 15 00</b> | <b>Communications Horizontal Cabling</b>                                 |
| 27 15 01        | Communications Horizontal Cabling Applications                           |
| 27 15 01.11     | Conductors and Cables for Electronic Safety and Security                 |
| 27 15 01.13     | Video Surveillance Communications Conductors and Cables                  |
| 27 15 01.15     | Access Control Communications Conductors and Cables                      |
| 27 15 01.16     | Voice Communications Horizontal Cabling                                  |
| 27 15 01.17     | Intrusion Detection Communications Conductors and Cables                 |
| 27 15 01.19     | Fire Alarm Communications Conductors and Cables                          |
| 27 15 01.23     | Audio-Video Communications Horizontal Cabling                            |
| 27 15 01.39     | Patient Monitoring and Telemetry Communications Horizontal Cabling       |
| 27 15 01.43     | Nurse Call and Intercom Communications Horizontal Cabling                |
| 27 15 01.46     | Paging Communications Horizontal Cabling                                 |
| 27 15 01.49     | Intermediate Frequency/Radio Frequency Communications Horizontal Cabling |
| 27 15 01.53     | Antennas Communications Horizontal Cabling                               |
| 27 15 13        | Communications Copper Horizontal Cabling                                 |
| 27 15 23        | Communications Optical Fiber Horizontal Cabling                          |
| 27 15 33        | Communications Coaxial Horizontal Cabling                                |
| 27 15 43        | Communications Faceplates and Connectors                                 |

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| <b>27 16 00</b> | <b>Communications Connecting Cords, Devices, and Adapters</b>          |
| 27 16 13        | Communications Custom Cable Assemblies                                 |
| 27 16 16        | Communications Media Converters, Adapters, and Transceivers            |
| 27 16 19        | Communications Patch Cords, Station Cords, and Cross Connect Wire      |
| <b>27 20 00</b> | <b>Data Communications</b>                                             |
| <b>27 21 00</b> | <b>Data Communications Network Equipment</b>                           |
| 27 21 13        | Data Communications Firewalls                                          |
| 27 21 16        | Data Communications Routers, CSU/DSU, Multiplexers, Codecs, and Modems |
| 27 21 26        | Data Communications Network Management                                 |
| 27 21 29        | Data Communications Switches and Hubs                                  |
| 27 21 33        | Data Communications Wireless Access Points                             |
| <b>27 22 00</b> | <b>Data Communications Hardware</b>                                    |
| 27 22 13        | Data Communications Mainframes                                         |
| 27 22 16        | Data Communications Storage and Backup                                 |
| 27 22 19        | Data Communications Servers                                            |
| 27 22 23        | Data Communications Desktops                                           |
| 27 22 26        | Data Communications Laptops                                            |
| 27 22 29        | Data Communications Handhelds                                          |
| <b>27 24 00</b> | <b>Data Communications Peripheral Data Equipment</b>                   |
| 27 24 13        | Printers                                                               |
| 27 24 16        | Scanners                                                               |
| 27 24 19        | External Drives                                                        |
| 27 24 23        | Audio-Video Devices                                                    |
| 27 24 26        | Virtual Reality Equipment                                              |
| 27 24 29        | Disaster Recovery Equipment                                            |
| <b>27 25 00</b> | <b>Data Communications Software</b>                                    |
| 27 25 13        | Virus Protection Software                                              |
| 27 25 16        | Application Suites                                                     |
| 27 25 19        | Email Software                                                         |
| 27 25 23        | Graphics/Multimedia Software                                           |
| 27 25 26        | Customer Relationship Management Software                              |
| 27 25 29        | Operating System Software                                              |
| 27 25 33        | Database Software                                                      |
| 27 25 37        | Virtual Private Network Software                                       |
| 27 25 39        | Internet Conferencing Software                                         |
| <b>27 26 00</b> | <b>Data Communications Programming and Integration Services</b>        |
| 27 26 13        | Web Development                                                        |
| 27 26 16        | Database Development                                                   |
| 27 26 19        | Application Development                                                |
| 27 26 23        | Network Integration Requirements                                       |
| 27 26 26        | Data Communications Integration Requirements                           |
| <b>27 30 00</b> | <b>Voice Communications</b>                                            |
| <b>27 31 00</b> | <b>Voice Communications Switching and Routing Equipment</b>            |

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| 27 31 13        | PBX/ Key Systems                                                      |
| 27 31 23        | Internet Protocol Voice Switches                                      |
| <b>27 32 00</b> | <b>Voice Communications Terminal Equipment</b>                        |
| 27 32 13        | Telephone Sets                                                        |
| 27 32 16        | Wireless Transceivers                                                 |
| 27 32 23        | Elevator Telephones                                                   |
| 27 32 26        | Ring-Down Emergency Telephones                                        |
| 27 32 29        | Facsimiles and Modems                                                 |
| 27 32 36        | TTY Equipment                                                         |
| 27 32 43        | Radio Communications Equipment                                        |
| <b>27 33 00</b> | <b>Voice Communications Messaging</b>                                 |
| 27 33 16        | Voice Mail and Auto Attendant                                         |
| 27 33 23        | Interactive Voice Response                                            |
| 27 33 26        | Facsimile Servers                                                     |
| <b>27 34 00</b> | <b>Call Accounting</b>                                                |
| 27 34 13        | Toll Fraud Equipment and Software                                     |
| 27 34 16        | Telemanagement Software                                               |
| <b>27 35 00</b> | <b>Call Management</b>                                                |
| 27 35 13        | Digital Voice Announcers                                              |
| 27 35 16        | Automatic Call Distributors                                           |
| 27 35 19        | Call Status and Management Displays                                   |
| 27 35 23        | Dedicated 911 Systems                                                 |
| <b>27 40 00</b> | <b>Audio-Video Communications</b>                                     |
| <b>27 41 00</b> | <b>Audio-Video Systems</b>                                            |
| 27 41 13        | Architecturally Integrated Audio-Video Equipment                      |
| 27 41 16        | Integrated Audio-Video Systems and Equipment                          |
| 27 41 16.25     | Integrated Audio-Video Systems and Equipment for Restaurants and Bars |
| 27 41 16.28     | Integrated Audio-Video Systems and Equipment for Conference Rooms     |
| 27 41 16.29     | Integrated Audio-Video Systems and Equipment for Board Rooms          |
| 27 41 16.51     | Integrated Audio-Video Systems and Equipment for Classrooms           |
| 27 41 16.52     | Integrated Audio-Video Systems and Equipment for Religious Facilities |
| 27 41 16.61     | Integrated Audio-Video Systems and Equipment for Theaters             |
| 27 41 16.62     | Integrated Audio-Video Systems and Equipment for Auditoriums          |
| 27 41 16.63     | Integrated Audio-Video Systems and Equipment for Stadiums and Arenas  |
| 27 41 19        | Portable Audio-Video Equipment                                        |
| 27 41 23        | Audio-Video Accessories                                               |
| 27 41 33        | Master Antenna Television Systems                                     |
| 27 41 43        | Audio-Video Conferencing                                              |
| <b>27 42 00</b> | <b>Electronic Digital Systems</b>                                     |
| 27 42 13        | Point of Sale Systems                                                 |
| 27 42 16        | Transportation Information Display Systems                            |
| 27 42 19        | Public Information Systems                                            |
| <b>27 50 00</b> | <b>Distributed Communications and Monitoring Systems</b>              |
| <b>27 51 00</b> | <b>Distributed Audio-Video Communications Systems</b>                 |
| 27 51 13        | Paging Systems                                                        |
| 27 51 13.13     | Overhead Paging Systems                                               |
| 27 51 16        | Public Address Systems                                                |



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| 27 51 19        | Sound Masking Systems                                                       |
| 27 51 23        | Intercommunications and Program Systems                                     |
| 27 51 23.20     | Commercial Intercommunications and Program Systems                          |
| 27 51 23.30     | Residential Intercommunications and Program Systems                         |
| 27 51 23.50     | Educational Intercommunications and Program Systems                         |
| 27 51 23.63     | Detention Intercommunications and Program Systems                           |
| 27 51 23.70     | Healthcare Intercommunications and Program Systems                          |
| 27 51 26        | Assistive Listening Systems                                                 |
| 27 51 29        | Emergency Communications Systems                                            |
| <b>27 52 00</b> | <b>Healthcare Communications and Monitoring Systems</b>                     |
| 27 52 13        | Patient Monitoring and Telemetry Systems                                    |
| 27 52 16        | Telemedicine Systems                                                        |
| 27 52 19        | Healthcare Imaging Systems                                                  |
| 27 52 23        | Nurse Call/Code Blue Systems                                                |
| <b>27 53 00</b> | <b>Distributed Systems</b>                                                  |
| 27 53 13        | Clock Systems                                                               |
| 27 53 13.13     | Wireless Clock Systems                                                      |
| 27 53 16        | Infrared and Radio Frequency Tracking Systems                               |
| 27 53 19        | Internal Cellular, Paging, and Antenna Systems                              |
| <b>28 00 00</b> | <b>Electronic Safety and Security</b>                                       |
| <b>28 01 00</b> | <b>Operation and Maintenance of Electronic Safety and Security</b>          |
| 28 01 10        | Operation and Maintenance of Access Control                                 |
| 28 01 10.51     | Maintenance and Administration of Access Control                            |
| 28 01 10.71     | Revisions and Upgrades of Access Control                                    |
| 28 01 20        | Operation and Maintenance of Video Surveillance                             |
| 28 01 20.51     | Maintenance and Administration of Video Surveillance                        |
| 28 01 20.71     | Revisions and Upgrades of Video Surveillance                                |
| 28 01 30        | Operation and Maintenance of Security Detection, Alarm, and Monitoring      |
| 28 01 30.51     | Maintenance and Administration of Security Detection, Alarm, and Monitoring |
| 28 01 30.71     | Revisions and Upgrades of Security Detection, Alarm, and Monitoring         |
| 28 01 50        | Operation and Maintenance of Specialized Systems                            |
| 28 01 50.51     | Maintenance and Administration of Specialized Systems                       |
| 28 01 50.71     | Revisions and Upgrades of Specialized Systems                               |
| 28 01 60        | Operation and Maintenance of Mass Notification                              |
| 28 01 60.51     | Maintenance and Administration of Mass Notification                         |
| 28 01 60.71     | Revisions and Upgrades of Mass Notification                                 |
| 28 01 70        | Operation and Maintenance of Life Safety                                    |
| 28 01 70.51     | Maintenance and Administration of Life Safety                               |
| 28 01 70.71     | Revisions and Upgrades of Life Safety                                       |
| 28 01 80        | Operation and Maintenance of Fire Detection and Alarm                       |
| 28 01 80.51     | Maintenance and Administration of Fire Detection and Alarm                  |
| 28 01 80.71     | Revisions and Upgrades of Fire Detection and Alarm                          |
| <b>28 05 00</b> | <b>Common Work Results for Electronic Safety and Security</b>               |
| 28 05 07        | Power Sources for Electronic Safety and Security                            |
| 28 05 07.11     | Power Sources for Access Control                                            |
| 28 05 07.13     | Power Sources for Video Surveillance                                        |
| 28 05 07.15     | Power Sources for Intrusion Detection                                       |
| 28 05 07.17     | Power Sources for Fire Detection and Alarm                                  |
| 28 05 07.19     | Solar Power Sources for Electronic Safety and Security                      |

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| 28 05 07.21 | Poe Power Sources for Electronic Safety and Security                 |
| 28 05 07.23 | Uninterruptible Power Supply                                         |
| 28 05 07.25 | Power Source Monitoring                                              |
| 28 05 07.27 | Power Source Monitoring Appliances                                   |
| 28 05 07.29 | Power Source Monitoring Software                                     |
| 28 05 09    | Surge Protection for Electronic Safety and Security                  |
| 28 05 09.11 | Surge Protection for Access Control                                  |
| 28 05 09.13 | Surge Protection for Video Surveillance                              |
| 28 05 09.15 | Surge Protection for Intrusion Detection                             |
| 28 05 09.17 | Surge Protection for Fire Detection and Alarm                        |
| 28 05 11    | Cyber Security Requirements for Electronic Safety and Security       |
| 28 05 13    | Servers, Workstations and Storage for Electronic Safety and Security |
| 28 05 13.11 | General Requirements for Servers, Workstations and Storage           |
| 28 05 15    | Servers for Electronic Safety and Security                           |
| 28 05 17    | Workstations for Electronic Safety and Security                      |
| 28 05 19    | Storage Appliances for Electronic Safety and Security                |
| 28 05 19.11 | Digital Video Recorders                                              |
| 28 05 19.13 | Hybrid Digital Video Recorders                                       |
| 28 05 19.15 | Network Video Recorders                                              |
| 28 05 21    | Network Attached Storage for Electronic Safety and Security          |
| 28 05 23    | Storage Area Network for Electronic Safety and Security              |
| 28 05 25    | Cloud Based Storage for Electronic Safety and Security               |
| 28 05 27    | Archival Systems for Electronic Safety and Security                  |
| 28 05 27.11 | Digital Tape Storage                                                 |
| 28 05 27.13 | Storage Media                                                        |
| 28 05 29    | Storage Management Software for Electronic Safety and Security       |
| 28 05 31    | Communications Equipment for Electronic Safety and Security          |
| 28 05 33    | Safety and Security Network Communications Equipment                 |
| 28 05 33.11 | Security Data Communications Firewalls                               |
| 28 05 33.13 | Security Data Communications Routers                                 |
| 28 05 33.15 | Security Data Communications Power-Over-Ethernet Switches            |
| 28 05 33.17 | Security Data Communications Non-Power-Over-Ethernet Switches        |
| 28 05 33.19 | Security Data Communications Media Converters                        |
| 28 05 35    | Security Data Communications Wireless Transmission Equipment         |
| 28 05 35.11 | Microwave Transmission Equipment                                     |
| 28 05 37    | Security Voice Communications -Distributed Antenna System            |
| 28 05 37.11 | Bi-Directional Amplifiers                                            |
| 28 05 37.13 | Repeaters                                                            |
| 28 05 37.15 | Remote Repeaters                                                     |
| 28 05 39    | Antennas                                                             |
| 28 05 39.11 | Donor Antennas                                                       |
| 28 05 39.13 | Multi-Band Antennas                                                  |
| 28 05 39.15 | Band Specific Antennas                                               |
| 28 05 39.17 | Radiating Coaxial Cable                                              |
| 28 05 39.19 | Other Antennas                                                       |
| 28 05 41    | Signal Controllers                                                   |
| 28 05 41.11 | Splitters                                                            |
| 28 05 41.13 | Directional Couplers                                                 |
| 28 05 43    | Security Voice Communications Private Mobile Radio System            |
| 28 05 43.11 | Base Station                                                         |
| 28 05 43.13 | Handheld Radio                                                       |
| 28 05 45    | Systems Integration and Interconnection Requirements                 |
| 28 05 45.11 | Mechanical                                                           |
| 28 05 45.13 | Electrical                                                           |

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| 28 05 45.15     | Information                                                       |
| 28 05 48        | Vibration and Seismic Controls for Electronic Safety and Security |
| 28 05 53        | Identification for Electronic Safety and Security                 |
| <b>28 06 00</b> | <b>Schedules for Electronic Safety and Security</b>               |
| 28 06 10        | Schedules for Access Control                                      |
| 28 06 20        | Schedules for Video Surveillance                                  |
| 28 06 30        | Schedules for Security Detection, Alarm, and Monitoring           |
| 28 06 40        | Schedules for Detention Monitoring and Control                    |
| 28 06 50        | Schedules for Information Management and Display                  |
| 28 06 60        | Schedules for Mass Notification                                   |
| 28 06 70        | Schedules for Life Safety                                         |
| 28 06 80        | Schedules for Fire Detection and Alarm                            |
| <b>28 08 00</b> | <b>Commissioning of Electronic Safety and Security</b>            |
| 28 08 11        | Testing for Baseline Performance Criteria                         |
| <b>28 10 00</b> | <b>Access Control</b>                                             |
| <b>28 11 00</b> | <b>Access Control Global Applications</b>                         |
| 28 12 01        | General Requirements for Access Control Systems                   |
| <b>28 13 00</b> | <b>Access Control Software and Database Management</b>            |
| 28 13 11        | Access Control Software                                           |
| 28 13 11.11     | Access Control Operating Systems                                  |
| 28 13 11.13     | Access Control Application Services                               |
| 28 13 11.15     | Access Control Mobile Applications                                |
| 28 13 13        | Access Control Software Interfaces                                |
| <b>28 14 00</b> | <b>Access Control System Hardware</b>                             |
| 28 14 11        | Access Control Network Controllers                                |
| 28 14 13        | Access Control Door Controllers                                   |
| 28 14 15        | Access Control Inputs and Outputs                                 |
| 28 14 17        | Access Control Printers and Encoders                              |
| 28 14 19        | Access Control Enclosures                                         |
| <b>28 15 00</b> | <b>Access Control Hardware Devices</b>                            |
| 28 15 11        | Integrated Credential Readers and Field Entry Management          |
| 28 15 11.11     | Standard Card Readers                                             |
| 28 15 11.13     | Keypads                                                           |
| 28 15 11.15     | Biometric Identity Devices                                        |
| 28 15 11.17     | Combination Reader Devices                                        |
| 28 15 13        | Access Control Credentials                                        |
| 28 15 13.11     | Access Control Cards                                              |
| 28 15 13.13     | Wireless Key Fobs                                                 |
| 28 15 15        | Electrified Locking Devices & Accessories                         |
| 28 15 15.11     | Direct Interface Integrated Locking Devices                       |
| 28 15 15.13     | Wireless Integrated Locking Devices                               |
| 28 15 15.15     | Intelligent Ethernet Integrated Locking Devices                   |
| 28 15 15.17     | Status Monitoring and Egress Devices                              |
| 28 15 17        | Egress Management Devices                                         |
| 28 15 17.11     | Magnetic Lock Delayed Egress Devices                              |
| 28 15 17.13     | Panic Hardware Delayed Egress Devices                             |
| 28 15 19        | Access Control Remote Devices                                     |
| 28 15 19.11     | Smart Phone Interface Requirements                                |
| 28 15 19.13     | Wireless Access Control Devices                                   |
| 28 15 21        | Telephone Entry Systems                                           |

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| 28 15 23        | Intercom Entry Systems                                        |
| 28 15 23.11     | Audio Intercom (Analog)                                       |
| 28 15 23.13     | Audio Video Intercom (Analog)                                 |
| 28 15 23.15     | Audio Intercom (IP)                                           |
| 28 15 23.17     | Audio Video Intercom (IP)                                     |
| 28 15 25        | Electronic Key Management Systems                             |
| 28 15 27        | Access Control Electronic Turnstiles & Mobility Systems       |
| <b>28 16 00</b> | <b>Access Control Interfaces</b>                              |
| 28 16 11        | Access Control Interfaces to Access Control Hardware          |
| 28 16 13        | Access Control Interfaces to Intrusion Detection              |
| 28 16 15        | Access Control Interfaces to Video Surveillance               |
| 28 16 17        | Access Control Interfaces to Fire Alarm                       |
| 28 16 19        | Access Control Interfaces to Enterprise Software              |
| 28 16 21        | Access Control Interfaces to Mechanical Systems               |
| 28 16 23        | Access Control Interfaces to Electrical Systems               |
| 28 16 25        | Access Control Interfaces to Electronic Key Management System |
| 28 16 27        | Access Control Interfaces to Elevator Controls                |
| 28 16 29        | Access Control Interfaces to Parking Equipment                |
| 28 16 31        | Access Control Interfaces to Perimeter Security Systems       |
| <b>28 17 00</b> | <b>Access Control Identification Management Systems</b>       |
| 28 17 11        | Visitor Management Systems                                    |
| 28 17 13        | Self Check In and Kiosk Visitor Systems                       |
| 28 17 15        | Contractor & Vendor Management Systems                        |
| 28 17 17        | Mobile Access Identification Management Systems               |
| <b>28 18 00</b> | <b>Security Access Detection Equipment</b>                    |
| 28 18 11        | Security Access Metal Detectors                               |
| 28 18 13        | Security Access X-Ray Equipment                               |
| 28 18 15        | Security Access Explosive Detection Equipment                 |
| 28 18 17        | Security Access Sniffing Equipment                            |
| <b>28 19 00</b> | <b>Access Control Vehicle Identification Systems</b>          |
| 28 19 11        | Loading Dock Access Management Systems                        |
| 28 19 13        | Parking Garage Access Management Systems                      |
| 28 19 15        | Perimeter Vehicle Access Management Systems                   |
| <b>28 20 00</b> | <b>Video Surveillance</b>                                     |
| <b>28 21 00</b> | <b>Surveillance Cameras</b>                                   |
| 28 21 11        | Analog Camera                                                 |
| 28 21 13        | IP Cameras                                                    |
| 28 21 13.11     | Panoramic IP Cameras                                          |
| 28 21 15        | Specialty Cameras                                             |
| 28 21 17        | Camera Housings                                               |
| 28 21 19        | Camera Mounts                                                 |
| 28 21 21        | Illuminators                                                  |
| <b>28 23 00</b> | <b>Video Management System</b>                                |
| 28 23 11        | Video Management System Analytics                             |
| 28 23 13        | Video Management System Interfaces                            |
| <b>28 25 00</b> | <b>Video Surveillance Positioning Equipment</b>               |
| <b>28 27 00</b> | <b>Video Surveillance Sensors</b>                             |
| <b>28 30 00</b> | <b>Security Detection, Alarm, and Monitoring</b>              |

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|-----------------|---------------------------------------------------------------------------|
| <b>28 31 00</b> | <b>Intrusion Detection</b>                                                |
| 28 31 11        | Building Intrusion Detection                                              |
| 28 31 11.11     | Building Intrusion Detection Control, Gui, and Logic Systems              |
| 28 31 11.13     | Building Intrusion Detection Remote Devices and Sensors                   |
| 28 31 21        | Area and Perimeter Intrusion Detection                                    |
| 28 31 21.11     | Fiber Optic Area and Perimeter Security Systems                           |
| 28 31 21.13     | Microwave Area and Perimeter Security Systems                             |
| 28 31 21.15     | Integrated Video Area and Perimeter Security Systems                      |
| 28 31 21.17     | Fixed Optical Beam Area and Perimeter Security Systems                    |
| 28 31 21.19     | Lidar Area and Perimeter Security Systems                                 |
| 28 31 21.21     | Coaxial Area and Perimeter Security Systems                               |
| 28 31 21.23     | Area and Perimeter Intrusion Detection Devices and Sensors                |
| 28 31 31        | Intrusion Detection Interfaces                                            |
| 28 31 31.11     | Intrusion Detection Interfaces to Security Monitoring and Control         |
| 28 31 31.13     | Intrusion Detection Interfaces to Access Control System                   |
| 28 31 31.15     | Intrusion Detection Interfaces to Video Surveillance                      |
| 28 31 31.17     | Intrusion Detection Interfaces to Information Management and Presentation |
| 28 31 31.19     | Intrusion Detection Interfaces to Mass Notification                       |
| 28 31 31.21     | Intrusion Detection Interfaces to Life Safety                             |
| 28 31 31.23     | Intrusion Detection Interfaces to Fire Alarm                              |
| 28 31 31.25     | Intrusion Detection Interfaces to Temperature Controls                    |
| <b>28 33 00</b> | <b>Security Monitoring and Control</b>                                    |
| 28 33 11        | Electronic Structural Monitoring Systems                                  |
| 28 33 13        | Security Operations and Monitoring Center                                 |
| 28 33 15        | Security Monitoring and Control Software                                  |
| 28 33 17        | Security Monitoring and Control Services                                  |
| <b>28 35 00</b> | <b>Tracking Systems</b>                                                   |
| 28 35 11        | Asset Tracking Systems                                                    |
| 28 35 11.11     | Rf Asset Tracking Systems                                                 |
| 28 35 11.13     | GPS Asset Tracking Systems                                                |
| 28 35 11.15     | Cellular Asset Tracking Systems                                           |
| 28 35 13        | Personnel Tracking Systems                                                |
| 28 35 13.11     | Rf Personnel Tracking Systems                                             |
| 28 35 13.13     | GPS Personnel Tracking Systems                                            |
| 28 35 13.15     | Cellular Personnel Tracking Systems                                       |
| <b>28 37 00</b> | <b>Audio Monitoring</b>                                                   |
| 28 37 11        | Audio Monitoring Devices                                                  |
| <b>28 40 00</b> | <b>Life Safety</b>                                                        |
| <b>28 41 00</b> | <b>Radiation Detection and Alarm</b>                                      |
| 28 41 11        | Radiation Detection and Alarm Control, Gui, and Logic Systems             |
| 28 41 13        | Radiation Detection and Alarm Integrated Audio Evacuation Systems         |
| 28 41 15        | Radiation Detection Sensors                                               |
| 28 41 17        | Radiation Dosimeters                                                      |
| <b>28 42 00</b> | <b>Gas Detection and Alarm</b>                                            |
| 28 42 11        | Gas Detection and Alarm Control, Gui, and Logic Systems                   |
| 28 42 13        | Gas Detection and Alarm Integrated Audio Evacuation Systems               |
| 28 42 15        | Gas Detection Sensors                                                     |
| <b>28 43 00</b> | <b>Fuel Oil Detection and Alarm</b>                                       |
| 28 43 11        | Fuel Oil Detection and Alarm Control, Gui, and Logic Systems              |
| 28 43 13        | Fuel Oil Detection and Alarm Integrated Audio Evacuation Systems          |

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|-----------------|---------------------------------------------------------------------|
| 28 43 15        | Fuel Oil Detection Sensors                                          |
| <b>28 44 00</b> | <b>Refrigerant Detection and Alarm</b>                              |
| 28 44 11        | Refrigerant Detection and Alarm Control, Gui, and Logic Systems     |
| 28 44 13        | Refrigerant Detection and Alarm Integrated Audio Evacuation Systems |
| 28 44 15        | Refrigerant Detection Sensors                                       |
| <b>28 45 00</b> | <b>Water Detection and Alarm</b>                                    |
| 28 45 11        | Water Detection and Alarm Control, Gui, and Logic Systems           |
| 28 45 13        | Water Detection Sensors                                             |
| 28 45 15        | Building Envelope Water Detection and Alarm                         |
| <b>28 46 00</b> | <b>Fire Detection and Alarm</b>                                     |
| 28 46 10        | Detection and Initiation                                            |
| 28 46 11        | Fire Sensors and Detectors                                          |
| 28 46 11.11     | Linear Heat Detection Sensors                                       |
| 28 46 11.13     | Spot-Type Heat Detection Sensors                                    |
| 28 46 11.15     | Duct Smoke Detection Sensors                                        |
| 28 46 11.17     | Beam Smoke Detection Sensors                                        |
| 28 46 11.19     | Video Smoke Detection Sensors                                       |
| 28 46 11.21     | Carbon-Monoxide Detection Sensors                                   |
| 28 46 11.23     | Combination Sensors                                                 |
| 28 46 11.25     | Air Sampling Systems                                                |
| 28 46 11.27     | Other Sensors                                                       |
| 28 46 12        | Other Initiating Devices                                            |
| 28 46 12.11     | Fire Alarm Pull Stations                                            |
| 28 46 12.13     | Fire Alarm Level Detector Switches                                  |
| 28 46 12.15     | Fire Alarm Flow Switches                                            |
| 28 46 12.17     | Fire Alarm Pressure Sensors                                         |
| 28 46 12.19     | Sprinkler Supervisory Devices                                       |
| 28 46 20        | Fire Alarm                                                          |
| 28 46 21.11     | Addressable Fire-Alarm Systems                                      |
| 28 46 21.13     | Conventional Fire-Alarm Systems                                     |
| 28 46 21.15     | Protected Premise Systems                                           |
| 28 46 21.17     | Proprietary Systems                                                 |
| 28 46 21.19     | Central Station Systems                                             |
| 28 46 21.21     | Remote Station Systems                                              |
| 28 46 21.23     | Public Emergency Alarm Reporting Systems                            |
| 28 46 22        | Network Command Centers, Printers and Peripherals for Fire Systems  |
| 28 46 23        | Fire Alarm Notification Appliances                                  |
| 28 46 23.11     | Fire Alarm Horns and Strobes                                        |
| 28 46 23.13     | Fire Alarm Speakers                                                 |
| 28 46 23.15     | Fire Alarm Low Frequency Sounders                                   |
| 28 46 23.17     | Wide Band Sounders                                                  |
| 28 46 24        | Fire Detection and Alarm Emergency Control Function Interfaces      |
| 28 46 24.11     | Fire Detection and Alarm Interfaces to Remote Monitoring            |
| 28 46 24.13     | Fire Detection and Alarm Interfaces to Access Control Hardware      |
| 28 46 24.15     | Fire Detection and Alarm Interfaces to Access Control System        |
| 28 46 24.17     | Fire Detection and Alarm Interfaces to Intrusion Detection          |
| 28 46 24.19     | Fire Detection and Alarm Interfaces to Video Surveillance           |
| 28 46 24.21     | Fire Detection and Alarm Interfaces to Elevator Control             |
| 28 46 24.23     | Other Fire Detection and Alarm Interfaces                           |
| <b>28 47 00</b> | <b>Mass Notification</b>                                            |
| 28 47 11        | General Requirements for Mass Notification                          |
| 28 47 13        | Mass Notification Software                                          |
| 28 47 15        | Mass Notification Control Panels                                    |

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|-----------------|----------------------------------------------------------------------|
| 28 47 17        | Notification Devices and Methods                                     |
| 28 47 17.11     | Notification Appliances and Methods Indoors                          |
| 28 47 17.13     | Notification Appliances and Methods Outdoors                         |
| 28 47 17.15     | Notification Appliances and Methods Distributed Recipient            |
| 28 47 17.17     | Notification Appliances and Methods Public Methods                   |
| 28 47 21        | Mass Notification System Interfaces                                  |
| 28 47 21.11     | Notification Interfaces to Access Control Systems                    |
| 28 47 21.13     | Notification Interfaces to Video Surveillance Systems                |
| 28 47 21.15     | Notification Interfaces to Security Detection, Alarm, and Monitoring |
| 28 47 21.17     | Notification Interfaces to Security Monitoring and Control           |
| 28 47 21.19     | Notification Interfaces to Life Safety Systems                       |
| 28 47 21.21     | Notification Interfaces to Fire Detection and Alarm                  |
| 28 47 21.23     | Notification Interfaces to Detention Systems                         |
| 28 47 21.25     | Notification Interfaces to Emergency Response Systems                |
| 28 47 21.27     | Notification Interfaces to Network and Facilities Monitoring         |
| 28 47 21.29     | Notification Interfaces to Web Intelligence                          |
| 28 47 21.31     | Notification Interfaces to Traffic Management and Monitoring Systems |
| 28 47 21.33     | Notification Interfaces to Smart Phones                              |
| 28 47 21.35     | Notification Interfaces to Other External Subsystems                 |
| <b>28 48 00</b> | <b>Emergency Response Systems</b>                                    |
| 28 48 23        | Computer Aided Dispatch                                              |
| <b>28 49 00</b> | <b>Electronic Personal Protection Systems</b>                        |
| 28 49 11        | Electronic Personal Safety Detection Systems                         |
| 28 49 13        | Electronic Personal Safety Alarm Annunciation and Control Systems    |
| 28 49 15        | Electronic Personal Safety Interfaces to Remote Monitoring           |
| 28 49 17        | Electronic Personal Safety Emergency Aid Devices                     |
| <b>28 50 00</b> | <b>Specialized Systems</b>                                           |
| <b>28 51 00</b> | <b>Information Management &amp; Presentation</b>                     |
| 28 51 11        | Information Management & Presentation Architecture                   |
| 28 51 13        | Data and Information Management                                      |
| 28 51 15        | Information Interfaces to Connected Subsystems                       |
| 28 51 15.11     | Information Interfaces to Access Control Systems                     |
| 28 51 15.13     | Information Interfaces to Video Surveillance Systems                 |
| 28 51 15.15     | Information Interfaces to Security Detection, Alarm, and Monitoring  |
| 28 51 15.17     | Information Interfaces to Security Monitoring and Control            |
| 28 51 15.19     | Information Interfaces to Mass Notification Systems                  |
| 28 51 15.21     | Information Interfaces to Life Safety Systems                        |
| 28 51 15.23     | Information Interfaces to Fire Detection and Alarm                   |
| 28 51 15.25     | Information Interfaces to Detention Systems                          |
| 28 51 15.27     | Information Interfaces to Emergency Response Systems                 |
| 28 51 15.29     | Information Interfaces to License Plate Recognition Systems          |
| 28 51 15.31     | Information Interfaces to Facial Recognition Systems                 |
| 28 51 15.33     | Information Interfaces to Remote Data Structures                     |
| 28 51 15.35     | Information Interfaces to Network and Facilities Monitoring          |
| 28 51 15.37     | Information Interfaces to Crowd Sourcing                             |
| 28 51 15.39     | Information Interfaces to Web Intelligence                           |
| 28 51 15.41     | Information Interfaces to Traffic Management and Monitoring Systems  |
| 28 51 15.43     | Information Interfaces to Environmental Monitoring Systems           |
| 28 51 15.45     | Information Interfaces to Directly Connected Sensors                 |
| 28 51 15.47     | Information Interfaces to Other Safety and Security Subsystems       |
| 28 51 15.49     | Information Interfaces to Other External Subsystems                  |
| 28 51 17        | Data Presentation                                                    |
| 28 51 17.11     | Maps                                                                 |

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|-------------|---------------------------------------|
| 28 51 17.13 | Visualization                         |
| 28 51 17.15 | Events/Alarms/Incidents               |
| 28 51 17.17 | Video Workspace                       |
| 28 51 17.19 | Dispatch/Notification                 |
| 28 51 17.21 | Review and Investigation              |
| 28 51 17.23 | Reporting                             |
| 28 51 19    | Control Room and Monitoring Equipment |
| 28 51 19.11 | Display/Workstations                  |
| 28 51 19.13 | Video Walls                           |
| 28 51 19.15 | Audio Equipment                       |
| 28 51 19.17 | Remote Displays                       |

## **28 52 00 Detention Security Systems**

|             |                                                                   |
|-------------|-------------------------------------------------------------------|
| 28 52 11    | Detention Monitoring and Control Systems                          |
| 28 52 13    | Detention Interfaces to Connected Subsystems                      |
| 28 52 13.11 | Detention Interfaces to Access Control Systems                    |
| 28 52 13.13 | Detention Interfaces to Video Surveillance Systems                |
| 28 52 13.15 | Detention Interfaces to Security Detention, Alarm, and Monitoring |
| 28 52 13.17 | Detention Interfaces to Security Monitoring and Control           |
| 28 52 13.19 | Detention Interfaces to Duress Alarm Systems                      |
| 28 52 13.21 | Detention Interfaces to Distributed Television Systems            |
| 28 52 13.23 | Detention Interfaces to Perimeter Security Systems                |
| 28 52 15    | Video Support Systems for Detention                               |
| 28 52 15.11 | Video Interrogation System                                        |
| 28 52 15.13 | Video Arraignment System                                          |
| 28 52 15.15 | Video Visitation System                                           |

## **31 00 00 Earthwork**

### **31 01 00 Maintenance of Earthwork**

|             |                                                              |
|-------------|--------------------------------------------------------------|
| 31 01 10    | Maintenance of Clearing                                      |
| 31 01 20    | Maintenance of Earth Moving                                  |
| 31 01 40    | Maintenance of Shoring and Underpinning                      |
| 31 01 50    | Maintenance of Excavation Support and Protection             |
| 31 01 60    | Maintenance of Special Foundations and Load Bearing Elements |
| 31 01 62    | Maintenance of Driven Piles                                  |
| 31 01 62.61 | Driven Pile Repairs                                          |
| 31 01 63    | Maintenance of Bored and Augered Piles                       |
| 31 01 63.61 | Bored and Augered Pile Repairs                               |
| 31 01 70    | Maintenance of Tunneling and Mining                          |
| 31 01 70.61 | Tunnel Leak Repairs                                          |

### **31 05 00 Common Work Results for Earthwork**

|             |                                    |
|-------------|------------------------------------|
| 31 05 05    | Selective Demolition for Earthwork |
| 31 05 13    | Soils for Earthwork                |
| 31 05 16    | Aggregates for Earthwork           |
| 31 05 19    | Geosynthetics for Earthwork        |
| 31 05 19.13 | Geotextiles for Earthwork          |
| 31 05 19.16 | Geomembranes for Earthwork         |
| 31 05 19.19 | Geogrids for Earthwork             |
| 31 05 19.23 | Geosynthetic Clay Liners           |
| 31 05 19.26 | Geocomposites                      |
| 31 05 19.29 | Geonets                            |
| 31 05 23    | Cement and Concrete for Earthwork  |

### **31 06 00 Schedules for Earthwork**



|                 |                                                                 |
|-----------------|-----------------------------------------------------------------|
| 31 06 10        | Schedules for Clearing                                          |
| 31 06 20        | Schedules for Earth Moving                                      |
| 31 06 20.13     | Trench Dimension Schedule                                       |
| 31 06 20.16     | Backfill Material Schedule                                      |
| 31 06 40        | Schedules for Shoring and Underpinning                          |
| 31 06 50        | Schedules for Excavation Support and Protection                 |
| 31 06 60        | Schedules for Special Foundations and Load Bearing Elements     |
| 31 06 60.13     | Driven Pile Schedule                                            |
| 31 06 60.16     | Caisson Schedule                                                |
| 31 06 70        | Schedules for Tunneling and Mining                              |
| <b>31 08 00</b> | <b>Commissioning of Earthwork</b>                               |
| 31 08 13        | Pile Load Testing                                               |
| 31 08 13.13     | Dynamic Pile Load Testing                                       |
| 31 08 13.16     | Static Pile Load Testing                                        |
| <b>31 09 00</b> | <b>Geotechnical Instrumentation and Monitoring of Earthwork</b> |
| 31 09 13        | Geotechnical Instrumentation and Monitoring                     |
| 31 09 13.13     | Groundwater Monitoring During Construction                      |
| 31 09 16        | Foundation Performance Instrumentation                          |
| 31 09 16.26     | Bored and Augered Pile Load Tests                               |
| <b>31 10 00</b> | <b>Site Clearing</b>                                            |
| <b>31 11 00</b> | <b>Clearing and Grubbing</b>                                    |
| <b>31 12 00</b> | <b>Selective Clearing</b>                                       |
| <b>31 13 00</b> | <b>Selective Tree and Shrub Removal and Trimming</b>            |
| 31 13 13        | Selective Tree and Shrub Removal                                |
| 31 13 16        | Selective Tree and Shrub Trimming                               |
| <b>31 14 00</b> | <b>Earth Stripping and Stockpiling</b>                          |
| 31 14 13        | Soil Stripping and Stockpiling                                  |
| 31 14 13.13     | Soil Stripping                                                  |
| 31 14 13.16     | Soil Stockpiling                                                |
| 31 14 13.23     | Topsoil Stripping and Stockpiling                               |
| 31 14 16        | Sod Stripping and Stockpiling                                   |
| 31 14 16.13     | Sod Stripping                                                   |
| 31 14 16.16     | Sod Stockpiling                                                 |
| <b>31 20 00</b> | <b>Earth Moving</b>                                             |
| <b>31 21 00</b> | <b>Off-Gassing Mitigation</b>                                   |
| 31 21 13        | Radon Mitigation                                                |
| 31 21 13.13     | Radon Venting                                                   |
| 31 21 16        | Methane Mitigation                                              |
| 31 21 16.13     | Methane Venting                                                 |
| <b>31 22 00</b> | <b>Grading</b>                                                  |
| 31 22 13        | Rough Grading                                                   |
| 31 22 16        | Fine Grading                                                    |
| 31 22 16.13     | Roadway Subgrade Reshaping                                      |
| 31 22 19        | Finish Grading                                                  |
| 31 22 19.13     | Spreading and Grading Topsoil                                   |
| <b>31 23 00</b> | <b>Excavation and Fill</b>                                      |
| 31 23 13        | Subgrade Preparation                                            |

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|-----------------|--------------------------------------------------------------|
| 31 23 16        | Excavation                                                   |
| 31 23 16.13     | Trenching                                                    |
| 31 23 16.16     | Structural Excavation for Minor Structures                   |
| 31 23 16.26     | Rock Removal                                                 |
| 31 23 19        | Dewatering                                                   |
| 31 23 23        | Fill                                                         |
| 31 23 23.13     | Backfill                                                     |
| 31 23 23.23     | Compaction                                                   |
| 31 23 23.33     | Flowable Fill                                                |
| 31 23 23.43     | Geofoam                                                      |
| 31 23 33        | Trenching and Backfilling                                    |
| <b>31 24 00</b> | <b>Embankments</b>                                           |
| 31 24 13        | Roadway Embankments                                          |
| 31 24 16        | Railway Embankments                                          |
| <b>31 25 00</b> | <b>Erosion and Sedimentation Controls</b>                    |
| 31 25 14        | Stabilization Measures for Erosion and Sedimentation Control |
| 31 25 14.13     | Hydraulically-Applied Erosion Control                        |
| 31 25 14.16     | Rolled Erosion Control Mats and Blankets                     |
| 31 25 24        | Structural Measures for Erosion and Sedimentation Control    |
| 31 25 24.13     | Rock Barriers                                                |
| 31 25 34        | Retention Measures for Erosion and Sedimentation Controls    |
| 31 25 34.13     | Rock Basins                                                  |
| <b>31 30 00</b> | <b>Earthwork Methods</b>                                     |
| <b>31 31 00</b> | <b>Soil Treatment</b>                                        |
| 31 31 13        | Rodent Control                                               |
| 31 31 13.16     | Rodent Control Bait Systems                                  |
| 31 31 13.19     | Rodent Control Traps                                         |
| 31 31 13.23     | Rodent Control Electronic Systems                            |
| 31 31 13.26     | Rodent Control Repellants                                    |
| 31 31 16        | Termite Control                                              |
| 31 31 16.13     | Chemical Termite Control                                     |
| 31 31 16.16     | Termite Control Bait Systems                                 |
| 31 31 16.19     | Termite Control Barriers                                     |
| 31 31 19        | Vegetation Control                                           |
| 31 31 19.13     | Chemical Vegetation Control                                  |
| 31 31 33        | Sanitary Vacuum System Piping                                |
| <b>31 32 00</b> | <b>Soil Stabilization</b>                                    |
| 31 32 13        | Soil Mixing Stabilization                                    |
| 31 32 13.13     | Asphalt Soil Stabilization                                   |
| 31 32 13.16     | Cement Soil Stabilization                                    |
| 31 32 13.19     | Lime Soil Stabilization                                      |
| 31 32 13.23     | Fly-Ash Soil Stabilization                                   |
| 31 32 13.26     | Lime-Fly-Ash Soil Stabilization                              |
| 31 32 16        | Chemical Treatment Soil Stabilization                        |
| 31 32 16.13     | Polymer Emulsion Soil Stabilization                          |
| 31 32 17        | Water Injection Soil Stabilization                           |
| 31 32 19        | Geosynthetic Soil Stabilization and Layer Separation         |
| 31 32 19.13     | Geogrid Soil Stabilization                                   |
| 31 32 19.16     | Geotextile Soil Stabilization                                |
| 31 32 19.19     | Geogrid Layer Separation                                     |
| 31 32 19.23     | Geotextile Layer Separation                                  |
| 31 32 23        | Pressure Grouting Soil Stabilization                         |

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| 31 32 23.13     | Cementitious Pressure Grouting Soil Stabilization |
| 31 32 23.16     | Chemical Pressure Grouting Soil Stabilization     |
| 31 32 33        | Shotcrete Soil Slope Stabilization                |
| 31 32 36        | Soil Nailing                                      |
| 31 32 36.13     | Driven Soil Nailing                               |
| 31 32 36.16     | Grouted Soil Nailing                              |
| 31 32 36.19     | Corrosion-Protected Soil Nailing                  |
| 31 32 36.23     | Jet-Grouted Soil Nailing                          |
| 31 32 36.26     | Launched Soil Nailing                             |
| <b>31 33 00</b> | <b>Rock Stabilization</b>                         |
| 31 33 13        | Rock Bolting and Grouting                         |
| 31 33 23        | Rock Slope Netting                                |
| 31 33 26        | Rock Slope Wire Mesh                              |
| 31 33 33        | Shotcrete Rock Slope Stabilization                |
| 31 33 43        | Vegetated Rock Slope Stabilization                |
| <b>31 34 00</b> | <b>Soil Reinforcement</b>                         |
| 31 34 19        | Geosynthetic Soil Reinforcement                   |
| 31 34 19.13     | Geogrid Soil Reinforcement                        |
| 31 34 19.16     | Geotextile Soil Reinforcement                     |
| 31 34 23        | Fiber Soil Reinforcement                          |
| 31 34 23.13     | Geosynthetic Fiber Soil Reinforcement             |
| <b>31 35 00</b> | <b>Slope Protection</b>                           |
| 31 35 19        | Geosynthetic Slope Protection                     |
| 31 35 19.13     | Geogrid Slope Protection                          |
| 31 35 19.16     | Geotextile Slope Protection                       |
| 31 35 19.19     | Slope Protection with Mulch Control Netting       |
| 31 35 23        | Slope Protection with Slope Paving                |
| 31 35 23.13     | Cast-In-Place Concrete Slope Paving               |
| 31 35 23.16     | Precast Concrete Slope Paving                     |
| 31 35 23.19     | Concrete Unit Masonry Slope Paving                |
| 31 35 26        | Containment Barriers                              |
| 31 35 26.13     | Clay Containment Barriers                         |
| 31 35 26.16     | Geomembrane Containment Barriers                  |
| 31 35 26.23     | Bentonite Slurry Trench                           |
| <b>31 36 00</b> | <b>Gabions</b>                                    |
| 31 36 13        | Gabion Boxes                                      |
| 31 36 19        | Gabion Mattresses                                 |
| 31 36 19.13     | Vegetated Gabion Mattresses                       |
| <b>31 37 00</b> | <b>Riprap</b>                                     |
| 31 37 13        | Machined Riprap                                   |
| 31 37 16        | Non-Machined Riprap                               |
| 31 37 16.13     | Rubble-Stone Riprap                               |
| 31 37 16.16     | Concrete Unit Masonry Riprap                      |
| 31 37 16.19     | Sacked Sand-Cement Riprap                         |
| <b>31 40 00</b> | <b>Shoring and Underpinning</b>                   |
| <b>31 41 00</b> | <b>Shoring</b>                                    |
| 31 41 13        | Timber Shoring                                    |
| 31 41 16        | Sheet Piling                                      |
| 31 41 16.13     | Steel Sheet Piling                                |
| 31 41 16.16     | Plastic Sheet Piling                              |
| 31 41 19        | Metal Hydraulic Shoring                           |

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| 31 41 19.13     | Aluminum Hydraulic Shoring                           |
| 31 41 23        | Pneumatic Shoring                                    |
| 31 41 33        | Trench Shielding                                     |
| <b>31 43 00</b> | <b>Concrete Raising</b>                              |
| 31 43 13        | Pressure Grouting                                    |
| 31 43 13.13     | Concrete Pressure Grouting                           |
| 31 43 13.16     | Polyurethane Pressure Grouting                       |
| 31 43 16        | Compaction Grouting                                  |
| 31 43 19        | Mechanical Jacking                                   |
| <b>31 45 00</b> | <b>Vibroflotation and Densification</b>              |
| 31 45 13        | Vibroflotation                                       |
| 31 45 16        | Densification                                        |
| <b>31 46 00</b> | <b>Needle Beams</b>                                  |
| 31 46 13        | Cantilever Needle Beams                              |
| <b>31 48 00</b> | <b>Underpinning</b>                                  |
| 31 48 13        | Underpinning Piers                                   |
| 31 48 19        | Bracket Piers                                        |
| 31 48 23        | Jacked Piers                                         |
| 31 48 33        | Micropile Underpinning                               |
| <b>31 50 00</b> | <b>Excavation Support and Protection</b>             |
| <b>31 51 00</b> | <b>Anchor Tiebacks</b>                               |
| 31 51 13        | Excavation Soil Anchors                              |
| 31 51 16        | Excavation Rock Anchors                              |
| <b>31 52 00</b> | <b>Cofferdams</b>                                    |
| 31 52 13        | Sheet Piling Cofferdams                              |
| 31 52 16        | Timber Cofferdams                                    |
| 31 52 19        | Precast Concrete Cofferdams                          |
| <b>31 53 00</b> | <b>Cribbing and Walers</b>                           |
| 31 53 13        | Timber Cribwork                                      |
| <b>31 54 00</b> | <b>Ground Freezing</b>                               |
| <b>31 56 00</b> | <b>Slurry Walls</b>                                  |
| 31 56 13        | Bentonite Slurry Walls                               |
| 31 56 13.13     | Soil-Bentonite Slurry Walls                          |
| 31 56 13.16     | Cement-Bentonite Slurry Walls                        |
| 31 56 13.19     | Slag-Cement-Bentonite Slurry Walls                   |
| 31 56 13.23     | Soil-Cement-Bentonite Slurry Walls                   |
| 31 56 13.26     | Pozzolan-Bentonite Slurry Walls                      |
| 31 56 13.29     | Organically-Modified Bentonite Slurry Walls          |
| 31 56 16        | Attipulgite Slurry Walls                             |
| 31 56 16.13     | Soil-Attipulgite Slurry Walls                        |
| 31 56 19        | Slurry-Geomembrane Composite Slurry Walls            |
| 31 56 23        | Lean Concrete Slurry Walls                           |
| 31 56 26        | Bio-Polymer Trench Drain                             |
| <b>31 60 00</b> | <b>Special Foundations and Load-Bearing Elements</b> |
| <b>31 62 00</b> | <b>Driven Piles</b>                                  |
| 31 62 13        | Concrete Piles                                       |

|             |                                       |
|-------------|---------------------------------------|
| 31 62 13.13 | Cast-in-Place Concrete Piles          |
| 31 62 13.16 | Concrete Displacement Piles           |
| 31 62 13.19 | Precast Concrete Piles                |
| 31 62 13.23 | Prestressed Concrete Piles            |
| 31 62 13.26 | Pressure-Injected Footings            |
| 31 62 16    | Steel Piles                           |
| 31 62 16.13 | Sheet Steel Piles                     |
| 31 62 16.16 | Steel H Piles                         |
| 31 62 16.19 | Unfilled Tubular Steel Piles          |
| 31 62 19    | Timber Piles                          |
| 31 62 23    | Composite Piles                       |
| 31 62 23.13 | Concrete-Filled Steel Piles           |
| 31 62 23.16 | Wood and Cast-In-Place Concrete Piles |

### **31 63 00      Bored Piles**

|             |                                           |
|-------------|-------------------------------------------|
| 31 63 13    | Bored and Augered Test Piles              |
| 31 63 16    | Auger Cast Grout Piles                    |
| 31 63 19    | Bored and Socketed Piles                  |
| 31 63 19.13 | Rock Sockets for Piles                    |
| 31 63 23    | Bored Concrete Piles                      |
| 31 63 23.13 | Bored and Belled Concrete Piles           |
| 31 63 23.16 | Bored Friction Concrete Piles             |
| 31 63 26    | Drilled Caissons                          |
| 31 63 26.13 | Fixed End Caisson Piles                   |
| 31 63 26.16 | Concrete Caissons for Marine Construction |
| 31 63 29    | Drilled Concrete Piers and Shafts         |
| 31 63 29.13 | Uncased Drilled Concrete Piers            |
| 31 63 29.16 | Cased Drilled Concrete Piers              |
| 31 63 33    | Drilled Micropiles                        |

### **31 64 00      Caissons**

|          |                    |
|----------|--------------------|
| 31 64 13 | Box Caissons       |
| 31 64 16 | Excavated Caissons |
| 31 64 19 | Floating Caissons  |
| 31 64 23 | Open Caissons      |
| 31 64 26 | Pneumatic Caissons |
| 31 64 29 | Sheeted Caissons   |

### **31 66 00      Special Foundations**

|             |                                                    |
|-------------|----------------------------------------------------|
| 31 66 13    | Special Piles                                      |
| 31 66 13.13 | Rammed Aggregate Piles                             |
| 31 66 15    | Helical Foundation Piles                           |
| 31 66 16    | Special Foundation Walls                           |
| 31 66 16.13 | Anchored Foundation Walls                          |
| 31 66 16.23 | Concrete Cribbing Foundation Walls                 |
| 31 66 16.26 | Metal Cribbing Foundation Walls                    |
| 31 66 16.33 | Manufactured Modular Foundation Walls              |
| 31 66 16.43 | Mechanically Stabilized Earth Foundation Walls     |
| 31 66 16.46 | Slurry Diaphragm Foundation Walls                  |
| 31 66 16.53 | Soldier-Beam Foundation Walls                      |
| 31 66 16.56 | Permanently-Anchored Soldier-Beam Foundation Walls |
| 31 66 19    | Refrigerated Foundations                           |

### **31 68 00      Foundation Anchors**

|          |                            |
|----------|----------------------------|
| 31 68 13 | Rock Foundation Anchors    |
| 31 68 16 | Helical Foundation Anchors |

|                 |                                                           |
|-----------------|-----------------------------------------------------------|
| <b>31 70 00</b> | <b>Tunneling and Mining</b>                               |
| <b>31 71 00</b> | <b>Tunnel Excavation</b>                                  |
| 31 71 13        | Shield Driving Tunnel Excavation                          |
| 31 71 16        | Tunnel Excavation by Drilling and Blasting                |
| 31 71 19        | Tunnel Excavation by Tunnel Boring Machine                |
| 31 71 23        | Tunneling by Cut and Cover                                |
| <b>31 72 00</b> | <b>Tunnel Support Systems</b>                             |
| 31 72 13        | Rock Reinforcement and Initial Support                    |
| 31 72 16        | Steel Ribs and Lagging                                    |
| <b>31 73 00</b> | <b>Tunnel Grouting</b>                                    |
| 31 73 13        | Cement Tunnel Grouting                                    |
| 31 73 16        | Chemical Tunnel Grouting                                  |
| <b>31 74 00</b> | <b>Tunnel Construction</b>                                |
| 31 74 13        | Cast-in-Place Concrete Tunnel Lining                      |
| 31 74 16        | Precast Concrete Tunnel Lining                            |
| 31 74 19        | Shotcrete Tunnel Lining                                   |
| <b>31 75 00</b> | <b>Shaft Construction</b>                                 |
| 31 75 13        | Cast-in-Place Concrete Shaft Lining                       |
| 31 75 16        | Precast Concrete Shaft Lining                             |
| <b>31 77 00</b> | <b>Submersible Tube Tunnels</b>                           |
| 31 77 13        | Trench Excavation for Submerged Tunnels                   |
| 31 77 16        | Tube Construction (Outfitting Tunnel Tubes)               |
| 31 77 19        | Floating and Laying Submerged Tunnels                     |
| <b>32 00 00</b> | <b>Exterior Improvements</b>                              |
| <b>32 01 00</b> | <b>Operation and Maintenance of Exterior Improvements</b> |
| 32 01 11        | Paving Cleaning                                           |
| 32 01 11.51     | Rubber and Paint Removal from Paving                      |
| 32 01 11.52     | Rubber Removal from Paving                                |
| 32 01 11.53     | Paint Removal from Paving                                 |
| 32 01 13        | Flexible Paving Surface Treatment                         |
| 32 01 13.61     | Slurry Seal (Latex Modified)                              |
| 32 01 13.62     | Asphalt Surface Treatment                                 |
| 32 01 16        | Flexible Paving Rehabilitation                            |
| 32 01 16.71     | Cold Milling Asphalt Paving                               |
| 32 01 16.72     | Asphalt Paving Reuse                                      |
| 32 01 16.73     | In Place Cold Reused Asphalt Paving                       |
| 32 01 16.74     | In Place Hot Reused Asphalt Paving                        |
| 32 01 16.75     | Heater Scarifying of Asphalt Paving                       |
| 32 01 17        | Flexible Paving Repair                                    |
| 32 01 17.61     | Sealing Cracks in Asphalt Paving                          |
| 32 01 17.62     | Stress-Absorbing Membrane Interlayer                      |
| 32 01 19        | Rigid Paving Surface Treatment                            |
| 32 01 19.61     | Sealing of Joints in Rigid Paving                         |
| 32 01 19.62     | Patching of Rigid Paving                                  |
| 32 01 23        | Base Course Reconditioning                                |
| 32 01 26        | Rigid Paving Rehabilitation                               |
| 32 01 26.71     | Grooving of Concrete Paving                               |
| 32 01 26.72     | Grinding of Concrete Paving                               |
| 32 01 26.73     | Milling of Concrete Paving                                |

|             |                                                |
|-------------|------------------------------------------------|
| 32 01 26.74 | Concrete Overlays                              |
| 32 01 26.75 | Concrete Paving Reuse                          |
| 32 01 29    | Rigid Paving Repair                            |
| 32 01 29.61 | Partial Depth Patching of Rigid Paving         |
| 32 01 29.62 | Concrete Paving Raising                        |
| 32 01 29.63 | Subsealing and Stabilization                   |
| 32 01 30    | Operation and Maintenance of Site Improvements |
| 32 01 30.13 | Snow Removal                                   |
| 32 01 80    | Operation and Maintenance of Irrigation        |
| 32 01 90    | Operation and Maintenance of Planting          |
| 32 01 90.13 | Fertilizing                                    |
| 32 01 90.16 | Amending Soils                                 |
| 32 01 90.19 | Mowing                                         |
| 32 01 90.23 | Pruning                                        |
| 32 01 90.26 | Watering                                       |
| 32 01 90.29 | Topsoil Preservation                           |
| 32 01 90.33 | Tree and Shrub Preservation                    |

## **32 05 00 Common Work Results for Exterior Improvements**

|             |                                                |
|-------------|------------------------------------------------|
| 32 05 05    | Selective Demolition for Exterior Improvements |
| 32 05 13    | Soils for Exterior Improvements                |
| 32 05 16    | Aggregates for Exterior Improvements           |
| 32 05 19    | Geosynthetics for Exterior Improvements        |
| 32 05 19.13 | Geotextiles for Exterior Improvements          |
| 32 05 19.16 | Geomembranes for Exterior Improvements         |
| 32 05 19.19 | Geogrids for Exterior Improvements             |
| 32 05 23    | Cement and Concrete for Exterior Improvements  |
| 32 05 33    | Common Work Results for Planting               |

## **32 06 00 Schedules for Exterior Improvements**

|             |                                           |
|-------------|-------------------------------------------|
| 32 06 10    | Schedules for Bases, Ballasts, and Paving |
| 32 06 10.13 | Pedestrian Walkway Schedule               |
| 32 06 30    | Schedules for Site Improvements           |
| 32 06 30.13 | Retaining Wall Schedule                   |
| 32 06 80    | Schedules for Irrigation                  |
| 32 06 80.13 | Irrigation Piping Schedule                |
| 32 06 90    | Schedules for Planting                    |
| 32 06 90.13 | Planting Schedule                         |

## **32 08 00 Commissioning of Exterior Improvements**

## **32 10 00 Bases, Ballasts, and Paving**

### **32 11 00 Base Courses**

|             |                                    |
|-------------|------------------------------------|
| 32 11 13    | Subgrade Modifications             |
| 32 11 13.13 | Lime-Treated Subgrades             |
| 32 11 13.16 | Bituminous-Treated Subgrades       |
| 32 11 16    | Subbase Courses                    |
| 32 11 16.13 | Sand-Clay Subbase Courses          |
| 32 11 16.16 | Aggregate Subbase Courses          |
| 32 11 23    | Aggregate Base Courses             |
| 32 11 23.13 | Sand-Clay Base Courses             |
| 32 11 23.23 | Base Course Drainage Layers        |
| 32 11 26    | Asphaltic Base Courses             |
| 32 11 26.13 | Plant Mix Asphaltic Base Courses   |
| 32 11 26.16 | Road Mix Asphaltic Base Courses    |
| 32 11 26.19 | Bituminous-Stabilized Base Courses |

|             |                                         |
|-------------|-----------------------------------------|
| 32 11 29    | Lime Treated Base Courses               |
| 32 11 29.13 | Lime-Fly Ash-Treated Base Courses       |
| 32 11 33    | Cement-Treated Base Courses             |
| 32 11 33.13 | Portland Cement-Stabilized Base Courses |
| 32 11 36    | Concrete Base Courses                   |
| 32 11 36.11 | Soil-Cement Concrete Base Courses       |
| 32 11 36.13 | Lean Concrete Base Courses              |
| 32 11 36.16 | Plain Cement Concrete Base Courses      |
| 32 11 36.19 | Hydraulic Cement Concrete Base Courses  |
| 32 11 39    | Shell Base Course                       |

## **32 12 00 Flexible Paving**

|             |                                                |
|-------------|------------------------------------------------|
| 32 12 13    | Preparatory Coats                              |
| 32 12 13.13 | Tack Coats                                     |
| 32 12 13.16 | Asphaltic Tack Coats                           |
| 32 12 13.19 | Prime Coats                                    |
| 32 12 13.23 | Asphaltic Prime Coats                          |
| 32 12 16    | Asphalt Paving                                 |
| 32 12 16.13 | Plant-Mix Asphalt Paving                       |
| 32 12 16.16 | Road-Mix Asphalt Paving                        |
| 32 12 16.19 | Cold-Mix Asphalt Paving                        |
| 32 12 16.23 | Reinforced Asphalt Paving                      |
| 32 12 16.26 | Fiber-Modified Asphalt Paving                  |
| 32 12 16.29 | Polymer-Modified Asphalt Paving                |
| 32 12 16.33 | Granulated Rubber-Modified Asphalt Paving      |
| 32 12 16.36 | Athletic Asphalt Paving                        |
| 32 12 19    | Asphalt Paving Wearing Courses                 |
| 32 12 19.13 | Road-Mix Asphalt Paving Wearing Courses        |
| 32 12 19.16 | Resin-Modified Asphalt Paving Wearing Courses  |
| 32 12 19.19 | Porous Friction Asphalt Paving Wearing Courses |
| 32 12 33    | Flexible Paving Surface Treatments             |
| 32 12 36    | Seal Coats                                     |
| 32 12 36.13 | Asphaltic Seal and Fog Coats                   |
| 32 12 36.16 | Coal Tar Seal Coats                            |
| 32 12 36.19 | Coal Tar Seal Coats with Unvulcanized Rubber   |
| 32 12 36.23 | Fuel-Resistant Sealers                         |
| 32 12 43    | Porous Flexible Paving                         |
| 32 12 73    | Asphalt Paving Joint Sealants                  |

## **32 13 00 Rigid Paving**

|             |                                               |
|-------------|-----------------------------------------------|
| 32 13 13    | Concrete Paving                               |
| 32 13 13.13 | Exposed Aggregate Concrete Paving             |
| 32 13 13.16 | Power-Compacted Concrete Paving               |
| 32 13 13.17 | Roller-Compacted Concrete Paving              |
| 32 13 13.19 | Prestressed Concrete Paving                   |
| 32 13 13.23 | Concrete Paving Surface Treatment             |
| 32 13 13.26 | Stained Concrete Paving                       |
| 32 13 13.33 | Plain Concrete Paving                         |
| 32 13 16    | Decorative Concrete Paving                    |
| 32 13 16.13 | Patterned Concrete Paving                     |
| 32 13 16.19 | Imprinted Concrete Paving                     |
| 32 13 16.23 | Stamped Concrete Paving                       |
| 32 13 43    | Pervious Concrete Paving                      |
| 32 13 73    | Concrete Paving Joint Sealants                |
| 32 13 73.13 | Fuel-Resistant Concrete Paving Joint Sealants |
| 32 13 73.16 | Field-Molded Concrete Paving Joint Sealants   |



|                 |                                                 |
|-----------------|-------------------------------------------------|
| 32 13 73.19     | Compression Concrete Paving Joint Sealants      |
| <b>32 14 00</b> | <b>Unit Paving</b>                              |
| 32 14 13        | Precast Concrete Unit Paving                    |
| 32 14 13.13     | Interlocking Precast Concrete Unit Paving       |
| 32 14 13.16     | Precast Concrete Unit Paving Slabs              |
| 32 14 13.19     | Porous Precast Concrete Unit Paving             |
| 32 14 16        | Brick Unit Paving                               |
| 32 14 23        | Asphalt Unit Paving                             |
| 32 14 26        | Wood Paving                                     |
| 32 14 29        | Rubber Paving                                   |
| 32 14 33        | Plastic Paving                                  |
| 32 14 33.13     | Permeable Plastic Paving                        |
| 32 14 40        | Stone Paving                                    |
| 32 14 43        | Porous Unit Paving                              |
| <b>32 15 00</b> | <b>Aggregate Surfacing</b>                      |
| 32 15 13        | Cinder Surfacing                                |
| 32 15 40        | Crushed Stone Surfacing                         |
| 32 15 50        | Aggregate-Turf Pavement                         |
| <b>32 16 00</b> | <b>Curbs, Gutters, Sidewalks, and Driveways</b> |
| 32 16 13        | Curbs and Gutters                               |
| 32 16 13.13     | Cast-In-Place Concrete Curbs and Gutters        |
| 32 16 13.16     | Steel Faced Curbs                               |
| 32 16 13.23     | Precast Concrete Curbs and Gutters              |
| 32 16 13.33     | Asphalt Curbs                                   |
| 32 16 13.43     | Stone Curbs                                     |
| 32 16 23        | Sidewalks                                       |
| 32 16 33        | Driveways                                       |
| <b>32 17 00</b> | <b>Paving Specialties</b>                       |
| 32 17 13        | Parking Bumpers                                 |
| 32 17 13.13     | Metal Parking Bumpers                           |
| 32 17 13.16     | Plastic Parking Bumpers                         |
| 32 17 13.19     | Precast Concrete Parking Bumpers                |
| 32 17 13.23     | Rubber Parking Bumpers                          |
| 32 17 13.26     | Wood Parking Bumpers                            |
| 32 17 16        | Manufactured Traffic-Calming Devices            |
| 32 17 23        | Pavement Markings                               |
| 32 17 23.13     | Painted Pavement Markings                       |
| 32 17 23.23     | Raised Pavement Markings                        |
| 32 17 23.33     | Plastic Pavement Markings                       |
| 32 17 26        | Tactile Warning Surfacing                       |
| 32 17 29        | Pavement Embedded Warning Lights                |
| 32 17 43        | Pavement Snow Melting Systems                   |
| <b>32 18 00</b> | <b>Athletic and Recreational Surfacing</b>      |
| 32 18 13        | Synthetic Grass Surfacing                       |
| 32 18 16        | Synthetic Resilient Surfacing                   |
| 32 18 16.13     | Playground Protective Surfacing                 |
| 32 18 23        | Athletic Surfacing                              |
| 32 18 23.13     | Baseball Field Surfacing                        |
| 32 18 23.16     | Natural Baseball Field Surfacing                |
| 32 18 23.19     | Synthetic Baseball Field Surfacing              |
| 32 18 23.23     | Field Sport Surfacing                           |
| 32 18 23.26     | Natural Field Sport Surfacing                   |

|             |                                   |
|-------------|-----------------------------------|
| 32 18 23.29 | Synthetic Field Sport Surfacing   |
| 32 18 23.33 | Running Track Surfacing           |
| 32 18 23.36 | Natural Running Track Surfacing   |
| 32 18 23.39 | Synthetic Running Track Surfacing |
| 32 18 23.43 | Recreational Court Surfacing      |
| 32 18 23.53 | Tennis Court Surfacing            |
| 32 18 23.56 | Natural Tennis Court Surfacing    |
| 32 18 23.59 | Synthetic Tennis Court Surfacing  |
| 32 18 23.63 | Equestrian Surfacing              |

## **32 30 00 Site Improvements**

### **32 31 00 Fences and Gates**

|             |                                            |
|-------------|--------------------------------------------|
| 32 31 11    | Gate Operators                             |
| 32 31 13    | Chain Link Fences and Gates                |
| 32 31 13.23 | Recreational Court Fences and Gates        |
| 32 31 13.26 | Tennis Court Fences and Gates              |
| 32 31 13.29 | Tennis Court Wind Breaker                  |
| 32 31 13.33 | Chain Link Backstops                       |
| 32 31 13.53 | High-Security Chain Link Fences and Gates  |
| 32 31 16    | Welded Wire Fences and Gates               |
| 32 31 17    | Expanded Metal Fences and Gates            |
| 32 31 19    | Decorative Metal Fences and Gates          |
| 32 31 19.53 | Decorative Metal Security Fences and Gates |
| 32 31 23    | Plastic Fences and Gates                   |
| 32 31 26    | Wire Fences and Gates                      |
| 32 31 26.11 | Wire Fences with Wood Posts                |
| 32 31 26.13 | Wire Fences with Steel Posts               |
| 32 31 29    | Wood Fences and Gates                      |
| 32 31 32    | Composite Fences and Gates                 |
| 32 31 53    | Cattle Guards                              |
| 32 31 56    | Wild Life Deterrent Fence                  |

### **32 32 00 Retaining Walls**

|             |                                                 |
|-------------|-------------------------------------------------|
| 32 32 13    | Cast-in-Place Concrete Retaining Walls          |
| 32 32 16    | Precast Concrete Retaining Walls                |
| 32 32 19    | Unit Masonry Retaining Walls                    |
| 32 32 23    | Segmental Retaining Walls                       |
| 32 32 23.13 | Segmental Concrete Unit Masonry Retaining Walls |
| 32 32 23.16 | Manufactured Modular Walls                      |
| 32 32 26    | Metal Crib Retaining Walls                      |
| 32 32 29    | Timber Retaining Walls                          |
| 32 32 34    | Reinforced Soil Retaining Walls                 |
| 32 32 36    | Gabion Retaining Walls                          |
| 32 32 43    | Soldier-Beam Retaining Walls                    |
| 32 32 53    | Stone Retaining Walls                           |

### **32 33 00 Site Furnishings**

|             |                                   |
|-------------|-----------------------------------|
| 32 33 13    | Site Bicycle Racks                |
| 32 33 14    | Site Bicycle Lockers              |
| 32 33 23    | Site Trash and Litter Receptacles |
| 32 33 33    | Site Manufactured Planters        |
| 32 33 43    | Site Seating and Tables           |
| 32 33 43.13 | Site Seating                      |
| 32 33 43.53 | Site Tables                       |

|                 |                                      |
|-----------------|--------------------------------------|
| <b>32 34 00</b> | <b>Fabricated Bridges</b>            |
| 32 34 13        | Fabricated Pedestrian Bridges        |
| 32 34 23        | Fabricated Roadway Bridges           |
| 32 34 33        | Fabricated Railway Bridges           |
| <b>32 35 00</b> | <b>Screening Devices</b>             |
| 32 35 13        | Screens and Louvers                  |
| 32 35 16        | Sound Barriers                       |
| 32 35 23        | Fire Barriers                        |
| 32 35 26        | Blast Barriers                       |
| <b>32 39 00</b> | <b>Manufactured Site Specialties</b> |
| 32 39 13        | Manufactured Metal Bollards          |
| 32 39 13.11     | Manufactured Metal Security Bollards |
| 32 39 16        | Manufactured Fire Pits               |
| 32 39 33        | Artificial Rock Fabrications         |
| <b>32 70 00</b> | <b>Wetlands</b>                      |
| <b>32 71 00</b> | <b>Constructed Wetlands</b>          |
| <b>32 72 00</b> | <b>Wetlands Restoration</b>          |
| <b>32 80 00</b> | <b>Irrigation</b>                    |
| <b>32 81 00</b> | <b>Irrigation Components</b>         |
| 32 81 13        | Irrigation Intake Screens            |
| <b>32 82 00</b> | <b>Irrigation Pumps</b>              |
| <b>32 84 00</b> | <b>Planting Irrigation</b>           |
| 32 84 13        | Drip Irrigation                      |
| 32 84 23        | Underground Sprinklers               |
| <b>32 86 00</b> | <b>Agricultural Irrigation</b>       |
| <b>32 90 00</b> | <b>Planting</b>                      |
| <b>32 91 00</b> | <b>Planting Preparation</b>          |
| 32 91 13        | Soil Preparation                     |
| 32 91 13.13     | Hydro-Punching                       |
| 32 91 13.16     | Mulching                             |
| 32 91 13.19     | Planting Soil Mixing                 |
| 32 91 13.23     | Structural Soil Mixing               |
| 32 91 13.26     | Planting Beds                        |
| 32 91 16        | Planting Soil Stabilization          |
| 32 91 16.13     | Blanket Planting Soil Stabilization  |
| 32 91 16.16     | Mat Planting Soil Stabilization      |
| 32 91 16.19     | Netting Planting Soil Stabilization  |
| 32 91 19        | Landscape Grading                    |
| 32 91 19.13     | Topsoil Placement and Grading        |
| <b>32 92 00</b> | <b>Turf and Grasses</b>              |
| 32 92 13        | Hydro-Mulching                       |
| 32 92 16        | Plugging                             |
| 32 92 19        | Seeding                              |
| 32 92 19.13     | Mechanical Seeding                   |
| 32 92 19.16     | Hydraulic Seeding                    |
| 32 92 23        | Sodding                              |
| 32 92 26        | Sprigging                            |

|                 |                                               |
|-----------------|-----------------------------------------------|
| 32 92 26.13     | Stolonizing                                   |
| <b>32 93 00</b> | <b>Plants</b>                                 |
| 32 93 13        | Ground Covers                                 |
| 32 93 23        | Plants and Bulbs                              |
| 32 93 33        | Shrubs                                        |
| 32 93 43        | Trees                                         |
| 32 93 93        | Exterior Artificial Plants                    |
| <b>32 94 00</b> | <b>Planting Accessories</b>                   |
| 32 94 13        | Landscape Edging                              |
| 32 94 16        | Landscape Timbers                             |
| 32 94 19        | Landscape Surfacing                           |
| 32 94 33        | Planters                                      |
| 32 94 43        | Tree Grates                                   |
| 32 94 46        | Tree Grids                                    |
| <b>32 95 00</b> | <b>Exterior Planting Support Structures</b>   |
| <b>32 96 00</b> | <b>Transplanting</b>                          |
| 32 96 13        | Ground Cover Transplanting                    |
| 32 96 23        | Plant and Bulb Transplanting                  |
| 32 96 33        | Shrub Transplanting                           |
| 32 96 43        | Tree Transplanting                            |
| <b>33 00 00</b> | <b>Utilities</b>                              |
| <b>33 01 00</b> | <b>Operation and Maintenance of Utilities</b> |
| 33 01 10        | Operation and Maintenance of Water Utilities  |
| 33 01 10.51     | Water Utility Intake Cleaning and Maintenance |
| 33 01 10.52     | Reservoir Maintenance                         |
| 33 01 10.53     | Flushing of Water Utility Piping              |
| 33 01 10.54     | Cleaning of Water Utility Piping              |
| 33 01 10.56     | Cleaning of Water Utility Storage Tanks       |
| 33 01 10.57     | Disinfection of Water Supply Wells            |
| 33 01 10.58     | Disinfection of Water Utility Piping Systems  |
| 33 01 10.59     | Disinfection of Water Utility Storage Tanks   |
| 33 01 10.81     | Water Supply Well Abandonment                 |
| 33 01 10.91     | Rehabilitation of Water Supply Wells          |
| 33 01 10.92     | Redevelopment of Water Supply Wells           |
| 33 01 12        | Inspection and Testing of Water Utilities     |
| 33 01 12.11     | Leakage Detection                             |
| 33 01 12.13     | Electrical Continuity Testing                 |
| 33 01 30        | Operation and Maintenance of Sewer Utilities  |
| 33 01 30.11     | Television Inspection of Sewers               |
| 33 01 30.13     | Dye Testing of Sewers                         |
| 33 01 30.16     | Smoke Testing                                 |
| 33 01 30.23     | Pipe Bursting                                 |
| 33 01 30.41     | Cleaning of Sewers                            |
| 33 01 30.42     | Cleaning of Manholes                          |
| 33 01 30.43     | Removal of Protruding Service Connection      |
| 33 01 30.44     | Chemical Treatment of Roots in Sewer Lines    |
| 33 01 30.61     | Packer Injection Grouting                     |
| 33 01 30.72     | Cured-in-place Pipe Lining                    |
| 33 01 30.73     | Cured-in-Place Point Repair                   |
| 33 01 30.74     | Cured-in-Place Lateral Lining                 |
| 33 01 30.77     | Cured-in-Place Lateral Shortliners            |

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|-------------|------------------------------------------------------------------|
| 33 01 30.79 | Fold-and-Form Pipe Lining                                        |
| 33 01 30.81 | Manhole Rehabilitation                                           |
| 33 01 30.82 | Epoxy Lining for Concrete Manholes                               |
| 33 01 30.84 | Manhole Inserts                                                  |
| 33 01 30.86 | Manhole Rim Adjustment                                           |
| 33 01 34    | Operation and Maintenance of Onsite Wastewater Disposal Systems  |
| 33 01 34.13 | Septic Tank Solids Removal                                       |
| 33 01 34.14 | Septic Tank Maintenance                                          |
| 33 01 34.19 | Septic Tank Abandonment                                          |
| 33 01 34.33 | Maintenance of Onsite Sand Filters                               |
| 33 01 50    | Operation and Maintenance of Hydrocarbon Utilities               |
| 33 01 50.53 | Cleaning of Hydrocarbon Conveyance Piping                        |
| 33 01 50.56 | Cleaning of Hydrocarbon Storage Tanks                            |
| 33 01 50.73 | Relining of Hydrocarbon Conveyance Piping                        |
| 33 01 50.76 | Relining of Steel Hydrocarbon Storage Tanks                      |
| 33 01 50.81 | Hydrocarbon Well Abandonment                                     |
| 33 01 50.91 | Rehabilitation of Hydrocarbon Wells                              |
| 33 01 60    | Operation and Maintenance of Hydronic and Steam Energy Utilities |
| 33 01 70    | Operation and Maintenance of Electrical Utilities                |
| 33 01 70.51 | Electrical Utility Visual Inspection                             |
| 33 01 70.52 | Electrical Utility Thermographic Surveys                         |
| 33 01 70.53 | Electrical Utility Insulation Testing                            |
| 33 01 70.54 | Electrical Utility Insulating Oil/Fluid Analysis                 |
| 33 01 80    | Operation and Maintenance of Communications Utilities            |
| 33 01 80.51 | Communication Utility Visual Inspection                          |
| 33 01 80.52 | Communication Utility Thermographic Surveys                      |

## **33 05 00 Common Work Results for Utilities**

|             |                                                 |
|-------------|-------------------------------------------------|
| 33 05 05    | Buried Piping Installation                      |
| 33 05 05.11 | Installing Bell-and-Spigot Joints               |
| 33 05 05.13 | Installing Push-on Joints                       |
| 33 05 05.15 | Installing Butt-and-Strap Joints                |
| 33 05 05.16 | Installing Mechanical Joints                    |
| 33 05 05.18 | Installing Restrained Joints                    |
| 33 05 05.19 | Fusing Joints                                   |
| 33 05 05.31 | Hydrostatic Testing                             |
| 33 05 05.33 | Infiltration and Exfiltration Testing           |
| 33 05 05.36 | Vacuum Testing                                  |
| 33 05 05.41 | Air Testing                                     |
| 33 05 05.43 | Mandrel Testing                                 |
| 33 05 05.46 | Lamp Testing                                    |
| 33 05 07    | Trenchless Installation of Utility Piping       |
| 33 05 07.13 | Utility Directional Drilling                    |
| 33 05 07.23 | Utility Boring and Jacking                      |
| 33 05 07.24 | Casing Piping for Utility Jacking               |
| 33 05 07.33 | Tunnelling                                      |
| 33 05 07.36 | Microtunnelling                                 |
| 33 05 07.43 | Utility Impact Moling                           |
| 33 05 07.53 | Cable Trenching and Plowing                     |
| 33 05 09    | Piping Specials for Utilities                   |
| 33 05 09.13 | Couplings for Utility Piping                    |
| 33 05 09.23 | Adapters for Utility Piping                     |
| 33 05 09.33 | Thrust Restraint for Utility Piping             |
| 33 05 09.43 | Tappling Sleeves and Saddles for Utility Piping |
| 33 05 11    | Aluminum Utility Pipe                           |

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|-------------|----------------------------------------------------------------------------------------------------|
| 33 05 12    | Brass Utility Pipe                                                                                 |
| 33 05 16    | Cast-Iron Utility Pipe                                                                             |
| 33 05 17    | Copper Utility Pipe and Tubing                                                                     |
| 33 05 19    | Ductile-Iron Utility Pipe                                                                          |
| 33 05 21    | High-Alloy Nickel Utility Pipe and Tubing                                                          |
| 33 05 23    | Stainless Steel Utility Pipe and Tubing                                                            |
| 33 05 23.13 | Duplex and Super-Duplex Stainless Steel Utility Pipe                                               |
| 33 05 23.23 | 300- and 400-Series Stainless Steel Utility Pipe                                                   |
| 33 05 23.33 | Special-Fabrication Stainless Steel Utility Pipe and Tubing                                        |
| 33 05 24    | Steel Utility Pipe                                                                                 |
| 33 05 24.13 | Steel Pipe and Tubing for Air and Gas Service                                                      |
| 33 05 24.23 | Steel Pipe for Water Service                                                                       |
| 33 05 24.26 | Steel Pipe and Tubing for Utility Liquid Service                                                   |
| 33 05 24.33 | Steel Pipe for Bulk Materials Conveyance                                                           |
| 33 05 27    | Corrugated Metal Utility Pipe                                                                      |
| 33 05 27.13 | Corrugated Metal Culvert Pipe                                                                      |
| 33 05 27.23 | Corrugated Metal Slotted Pipe                                                                      |
| 33 05 27.33 | Corrugated Metal Culvert Arch Pipe                                                                 |
| 33 05 31    | Thermoplastic Utility Pipe                                                                         |
| 33 05 31.11 | Polyvinyl Chloride Gravity Sewer Pipe                                                              |
| 33 05 31.13 | Polyvinyl Chloride Pressure Pipe                                                                   |
| 33 05 31.16 | Polyvinyl Chloride Pressure Pipe for Water Transmission and Distribution (AWWA C900 and AWWA C905) |
| 33 05 31.19 | Fusible Polyvinyl Chloride Pipe                                                                    |
| 33 05 31.21 | Ribbed Polyvinyl Chloride Gravity Pipe                                                             |
| 33 05 31.23 | Dual-Wall Polyvinyl Chloride Profile Pipe                                                          |
| 33 05 31.26 | Polyvinyl Chloride Sleeve Pipe                                                                     |
| 33 05 31.27 | Polyvinyl Chloride Perforated Drainage Pipe                                                        |
| 33 05 31.29 | Polyvinyl Chloride Electrical Duct                                                                 |
| 33 05 31.33 | ABS Utility Pipe                                                                                   |
| 33 05 33    | Polyethylene Utility Pipe                                                                          |
| 33 05 33.13 | Corrugated-Wall, Smooth Interior HDPE Gravity Pipe                                                 |
| 33 05 33.23 | Polyethylene Pressure Pipe and Tubing (AWWA C901 and AWWA C906)                                    |
| 33 05 33.33 | Corrugated, Perforated HDPE Drainage Pipe                                                          |
| 33 05 33.36 | Corrugated, Non-Perforated HDPE Drainage Pipe                                                      |
| 33 05 33.53 | HDPE Gas Utility Pipe                                                                              |
| 33 05 33.56 | Medium-Density Polyethylene Gas Utility Pipe                                                       |
| 33 05 33.63 | HDPE Communication Duct                                                                            |
| 33 05 36    | Fiberglass-Reinforced Plastic Utility Pipe                                                         |
| 33 05 36.13 | Fiberglass-Reinforced Plastic Pipe for Utility Air, Gas, and Odor Service                          |
| 33 05 36.23 | Fiberglass-Reinforced Plastic Pipe for Utility Liquid Service                                      |
| 33 05 36.33 | Fiberglass-Reinforced Plastic Pipe for Electrical Service                                          |
| 33 05 37    | Centrifugally Cast Fiberglass-Reinforced Polymer Mortar Utility Pipe                               |
| 33 05 39    | Concrete Pipe                                                                                      |
| 33 05 39.11 | Concrete Pressure Pipe, Steel-Cylinder Type (AWWA C300)                                            |
| 33 05 39.13 | Prestressed Concrete Pressure Pipe, Steel-Cylinder Type (AWWA C301)                                |
| 33 05 39.16 | Reinforced Concrete Pressure Pipe, Non-cylinder Type (AWWA C302)                                   |
| 33 05 39.17 | Concrete Pressure Pipe, Bar-Wrapped Steel-Cylinder Type (AWWA C303)                                |
| 33 05 39.23 | Reinforced Concrete Low-Head Pressure Utility Pipe                                                 |
| 33 05 39.33 | Non-Reinforced Concrete Sewer and Culvert Pipe                                                     |
| 33 05 39.36 | Non-Reinforced Concrete Irrigation and Drainage Pipe                                               |
| 33 05 39.41 | Reinforced Concrete Pipe for Sewers and Culverts                                                   |
| 33 05 39.43 | Perforated Concrete Utility Pipe                                                                   |
| 33 05 39.46 | Reinforced Concrete Elliptical Pipe for Sewers and Culverts                                        |
| 33 05 39.49 | Reinforced Concrete Box Sections for Sewers and Culverts                                           |

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|-------------|-------------------------------------------------|
| 33 05 39.63 | Concrete Pipe Closures                          |
| 33 05 39.66 | Concrete Pipe Thrust Restraints                 |
| 33 05 39.69 | Concrete Pipe Wall Fittings                     |
| 33 05 41    | Vitrified Clay Utility Pipe                     |
| 33 05 43    | Ceramic Drainage Tile                           |
| 33 05 46    | Asbestos Cement Utility Pipe                    |
| 33 05 61    | Concrete Manholes                               |
| 33 05 63    | Concrete Vaults and Chambers                    |
| 33 05 66    | Concrete Distribution Chambers                  |
| 33 05 69    | Concrete Trenchways                             |
| 33 05 71    | Cleanouts                                       |
| 33 05 73    | Polyethylene Manholes                           |
| 33 05 76    | Fiberglass Manholes                             |
| 33 05 77    | Fiberglass Metering Manholes                    |
| 33 05 81    | Metallic Castings for Utility Structures        |
| 33 05 83    | Non-Metallic Accessories for Utility Structures |
| 33 05 93    | Common Motor Requirements for Utilities         |
| 33 05 96    | Vibration and Seismic Controls for Utilities    |
| 33 05 97    | Identification and Signage for Utilities        |
| 33 05 97.13 | Signage for Utilities                           |
| 33 05 97.16 | Markers for Utility Identification              |
| 33 05 97.23 | Underground Utility Warning Tape                |
| 33 05 97.33 | Utility Identification Flags                    |

### **33 06 00 Schedules for Utilities**

|             |                                                   |
|-------------|---------------------------------------------------|
| 33 06 05    | Schedules for Utility Piping                      |
| 33 06 10    | Schedules for Water Utilities                     |
| 33 06 30    | Schedules for Sanitary Sewerage Utilities         |
| 33 06 40    | Schedules for Stormwater Utilities                |
| 33 06 40.13 | Stormwater Drainage System Schedules              |
| 33 06 50    | Schedules for Hydrocarbon Utilities               |
| 33 06 60    | Schedules for Hydronic and Steam Energy Utilities |
| 33 06 70    | Schedules for Electrical Utilities                |
| 33 06 80    | Schedules for Communications Utilities            |

### **33 08 00 Commissioning of Utilities**

|          |                                                      |
|----------|------------------------------------------------------|
| 33 08 10 | Commissioning of Water Utilities                     |
| 33 08 30 | Commissioning of Sanitary Sewerage Utilities         |
| 33 08 40 | Commissioning of Stormwater Utilities                |
| 33 08 50 | Commissioning of Hydrocarbon Utilities               |
| 33 08 60 | Commissioning of Hydronic and Steam Energy Utilities |
| 33 08 70 | Commissioning of Electrical Utilities                |
| 33 08 80 | Commissioning of Communications Utilities            |

### **33 09 00 Instrumentation and Control for Utilities**

|             |                                                               |
|-------------|---------------------------------------------------------------|
| 33 09 01    | Utility Meter Registers                                       |
| 33 09 01.13 | Mechanical Registers                                          |
| 33 09 01.23 | Pulse Registers                                               |
| 33 09 01.33 | Encoder Registers                                             |
| 33 09 02    | Touch-based Utility Meter Reading Equipment                   |
| 33 09 03    | Handheld Radio Frequency Utility Meter Reading Equipment      |
| 33 09 04    | Mobile Radio Frequency Utility Meter Reading Equipment        |
| 33 09 05    | Fixed-Network Radio Frequency Utility Meter Reading Equipment |
| 33 09 06    | Satellite Radio Frequency Utility Meter Reading Equipment     |

|          |                                                                     |
|----------|---------------------------------------------------------------------|
| 33 09 07 | Power Line Communication Utility Meter Reading Equipment            |
| 33 09 08 | Wireless Local Area Network Utility Meter Reading Equipment         |
| 33 09 09 | Meter Data Acquisition and Hosting Software                         |
| 33 09 10 | Instrumentation and Control for Water Utilities                     |
| 33 09 30 | Instrumentation and Control for Sanitary Sewerage Utilities         |
| 33 09 40 | Instrumentation and Control for Stormwater Utilities                |
| 33 09 50 | Instrumentation and Control for Hydrocarbon Utilities               |
| 33 09 53 | Leak Detection for Hydrocarbon Systems                              |
| 33 09 60 | Instrumentation and Control for Hydronic and Steam Energy Utilities |
| 33 09 70 | Instrumentation and Control for Electrical Utilities                |
| 33 09 80 | Instrumentation and Control for Communications Utilities            |

**33 10 00****Water Utilities****33 11 00****Groundwater Sources**

|          |                                                          |
|----------|----------------------------------------------------------|
| 33 11 11 | Test Wells                                               |
| 33 11 13 | Potable Water Supply Wells                               |
| 33 11 16 | Irrigation Wells                                         |
| 33 11 19 | Aquifer Recharging Wells                                 |
| 33 11 33 | Vertically Suspended Dry-Location Centrifugal Well Pumps |
| 33 11 36 | Submersible Centrifugal Well Pumps                       |
| 33 11 39 | Jet-Type Well Pumps                                      |
| 33 11 53 | Monitoring Wells                                         |

**33 12 00****Surface Water Sources**

|             |                                                                                   |
|-------------|-----------------------------------------------------------------------------------|
| 33 12 11    | Intake Structure Systems                                                          |
| 33 12 13    | Intake Cribs                                                                      |
| 33 12 16    | Intake Drop and Riser Shafts                                                      |
| 33 12 31    | Reservoir Weight-tensioned, Defined Sump Floating Covers                          |
| 33 12 31.13 | Reservoir Weight-tensioned, Defined Sump Polyethylene-reinforced Floating Covers  |
| 33 12 31.23 | Reservoir Weight-tensioned, Defined Sump Polypropylene-reinforced Floating Covers |
| 33 12 33    | Reservoir Mechanically-tensioned Floating Covers                                  |
| 33 12 33.13 | Reservoir Mechanically-tensioned Polyethylene-reinforced Floating Covers          |
| 33 12 33.23 | Reservoir Mechanically-tensioned Polypropylene-reinforced Floating Covers         |
| 33 12 36    | Reservoir Short-term Floating Covers                                              |
| 33 12 39    | Reservoir Ball Floating Covers                                                    |
| 33 12 43    | Floats for Reservoir Floating Covers                                              |
| 33 12 46    | Appurtenances for Reservoir Floating Covers                                       |
| 33 12 53    | Reservoir Flexible Baffle Curtains                                                |

**33 14 00****Water Utility Transmission and Distribution**

|             |                                                                               |
|-------------|-------------------------------------------------------------------------------|
| 33 14 11    | Water Utility Transmission Piping                                             |
| 33 14 13    | Public Water Utility Distribution Piping                                      |
| 33 14 16    | Site Water Utility Distribution Piping                                        |
| 33 14 17    | Site Water Utility Service Laterals                                           |
| 33 14 19    | Valves and Hydrants for Water Utility Service                                 |
| 33 14 23    | Enclosures for Water Utility Piping and Valves                                |
| 33 14 23.11 | Heated, Insulated Aluminum Enclosures for Water Utility Piping and Valves     |
| 33 14 23.13 | Heated, Insulated Fiberglass Enclosures for Water Utility Piping and Valves   |
| 33 14 23.16 | Unheated, Insulated Aluminum Enclosures for Water Utility Piping and Valves   |
| 33 14 23.17 | Unheated, Insulated Fiberglass Enclosures for Water Utility Piping and Valves |
| 33 14 23.23 | Fiberglass Artificial Rock Enclosures for Water Utility Piping and Valves     |



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|-----------------|--------------------------------------------------------------------------|
| 33 14 23.26     | Plastic Artificial Rock Enclosures for Water Utility Piping and Valves   |
| 33 14 23.33     | Enclosures for Water Utility Air Valves                                  |
| 33 14 43        | Packaged Pumping Systems for Water Utility Service                       |
| <b>33 16 00</b> | <b>Water Utility Storage Tanks</b>                                       |
| 33 16 11        | Elevated Composite Water Storage Tanks                                   |
| 33 16 13        | Elevated Pillar-Type Steel Water Storage Tanks                           |
| 33 16 16        | Multi-Column Elevated Steel Water Storage Tanks                          |
| 33 16 19        | Elevated Spheroid Steel Water Storage Tanks                              |
| 33 16 23        | Ground-Level Steel Water Storage Tanks                                   |
| 33 16 31        | Ground-Level AWWA D110 Type I Prestressed Concrete Water Storage Tanks   |
| 33 16 32        | Ground-Level AWWA D110 Type II Prestressed Concrete Water Storage Tanks  |
| 33 16 33        | Ground-Level AWWA D110 Type III Prestressed Concrete Water Storage Tanks |
| 33 16 36        | Ground-Level Reinforced Concrete Water Storage Tanks                     |
| 33 16 53        | Ground-Level Metal Water Storage Cisterns                                |
| 33 16 56        | Ground-Level Plastic Water Storage Cisterns                              |
| 33 16 61        | Underground Concrete Water Storage Cisterns                              |
| 33 16 63        | Underground Non-Metallic Water Storage Cisterns                          |
| 33 16 66        | Underground Plastic Modular Water Storage Cisterns                       |
| 33 16 93        | Water Storage Tank Interior Curtain Walls                                |
| 33 16 96        | Water Storage Tank Appurtenances                                         |
| <b>33 19 00</b> | <b>Water Utility Metering Equipment</b>                                  |
| 33 19 13        | Positive Displacement Water Meters                                       |
| 33 19 13.13     | Oscillating Piston Water Meters                                          |
| 33 19 13.23     | Nutating Disc Water Meters                                               |
| 33 19 16        | Velocity-Type Water Meters                                               |
| 33 19 16.13     | Single-Jet Water Meters                                                  |
| 33 19 16.16     | Multi-Jet Water Meters                                                   |
| 33 19 16.23     | Turbine Water Meters                                                     |
| 33 19 16.26     | Fire-Type Turbine Water Meters                                           |
| 33 19 16.29     | Portable Fire Hydrant-Type Turbine Water Meters                          |
| 33 19 16.33     | Propeller Water Meters                                                   |
| 33 19 19        | Compound Water Meters                                                    |
| 33 19 23        | Magnetic Water Meters                                                    |
| 33 19 26        | Ultrasonic Water Meters                                                  |
| 33 19 29        | Pre-paid Water Meters                                                    |
| <b>33 30 00</b> | <b>Sanitary Sewerage</b>                                                 |
| <b>33 31 00</b> | <b>Sanitary Sewerage Piping</b>                                          |
| 33 31 11        | Public Sanitary Sewerage Gravity Piping                                  |
| 33 31 13        | Site Sanitary Sewerage Gravity Piping                                    |
| 33 31 16        | Site Sanitary Sewerage Gravity Service Laterals                          |
| 33 31 19        | Small-Diameter Sanitary Sewerage Gravity Piping                          |
| 33 31 23        | Sanitary Sewerage Force Main Piping                                      |
| 33 31 26        | Sanitary Pressure Sewer Piping                                           |
| 33 31 29        | STEP System Piping                                                       |
| <b>33 32 00</b> | <b>Sanitary Sewerage Equipment</b>                                       |
| 33 32 11        | Field-Erected Wastewater Pumping Stations                                |
| 33 32 13        | Packaged Wastewater Pumping Stations                                     |

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|-----------------|-------------------------------------------------------------------------------|
| 33 32 16        | Packaged Wastewater Grinder Pump Assemblies                                   |
| 33 32 19        | Septic Tank Effluent Pumps                                                    |
| 33 32 26        | Pneumatic Sewage Ejectors                                                     |
| 33 32 33        | Wastewater Collection Vacuum Stations                                         |
| 33 32 36        | Pneumatic Wastewater Vacuum Valve Sumps                                       |
| <b>33 34 00</b> | <b>Onsite Wastewater Disposal</b>                                             |
| 33 34 13        | Septic Tanks                                                                  |
| 33 34 13.13     | Concrete Septic Tanks                                                         |
| 33 34 13.23     | Fiberglass Septic Tanks                                                       |
| 33 34 13.33     | Polyethylene Septic Tanks                                                     |
| 33 34 16        | Septic Tank Effluent Filters                                                  |
| 33 34 16.13     | Septic Tank Gravity Effluent Filters                                          |
| 33 34 16.16     | Septic Tank Pressurized Effluent Filters                                      |
| 33 34 19        | Septic Tank Accessories                                                       |
| 33 34 23        | Onsite Aerobic Equipment                                                      |
| 33 34 33        | Onsite Intermittent Wastewater Filtration Systems                             |
| 33 34 36        | Onsite Recirculating Wastewater Filtration Systems                            |
| 33 34 51        | Drainage Field System                                                         |
| 33 34 53        | Distribution Chambers                                                         |
| 33 34 53.13     | Drainage Field Concrete Distribution Chambers                                 |
| 33 34 53.23     | Drainage Field Fiberglass Distribution Chambers                               |
| 33 34 53.33     | Drainage Field Polyethylene Distribution Chambers                             |
| 33 34 56        | Drainage Field Dosing Chambers                                                |
| 33 34 57        | Drainage Field Infiltration Chambers                                          |
| <b>33 36 00</b> | <b>Wastewater Utility Storage Tanks</b>                                       |
| 33 36 23        | Ground-Level Steel Wastewater Storage Tanks                                   |
| 33 36 31        | Ground-Level AWWA D110 Type I Prestressed Concrete Wastewater Storage Tanks   |
| 33 36 32        | Ground-Level AWWA D110 Type II Prestressed Concrete Wastewater Storage Tanks  |
| 33 36 33        | Ground-Level AWWA D110 Type III Prestressed Concrete Wastewater Storage Tanks |
| 33 36 36        | Ground-Level Reinforced Concrete Wastewater Storage Tanks                     |
| 33 36 43        | Underground Reinforced Concrete Wastewater Storage Tanks                      |
| 33 36 53        | Wastewater Storage Tunnel Systems                                             |
| <b>33 37 00</b> | <b>Overflow Control</b>                                                       |
| 33 37 13        | Bending Weirs                                                                 |
| 33 37 16        | Spring-loaded Weirs                                                           |
| 33 37 23        | Flow Regulators                                                               |
| 33 37 33        | Swirl Concentrators                                                           |
| 33 37 36        | Vortex-Type Hydrodynamic Separators                                           |
| 33 37 43        | Netting Systems                                                               |
| 33 37 46        | End-of-Pipe In-water Storage Systems                                          |
| <b>33 40 00</b> | <b>Stormwater Utilities</b>                                                   |
| <b>33 41 00</b> | <b>Subdrainage</b>                                                            |
| 33 41 13        | Foundation Drainage                                                           |
| 33 41 13.13     | Foundation Drainage Piping                                                    |
| 33 41 13.16     | Geocomposite Foundation Drainage                                              |
| 33 41 16        | Subdrainage Piping                                                            |
| 33 41 16.16     | Geocomposite Subdrainage                                                      |

- 33 41 16.19 Pipe Underdrains
- 33 41 19 Underslab Drainage
- 33 41 19.13 Underslab Drainage Piping
- 33 41 19.16 Geocomposite Underslab Drainage
- 33 41 23 Drainage Layers
- 33 41 23.16 Gravel Drainage Layers
- 33 41 23.19 Geosynthetic Drainage Layers
- 33 41 33 Retaining Wall Drainage
- 33 41 43 Synthetic-Media French Drains

### **33 42 00 Stormwater Conveyance**

- 33 42 11 Stormwater Gravity Piping
- 33 42 13 Stormwater Culverts
- 33 42 16 Stormwater Force Main Piping
- 33 42 23 Headwalls and Endwalls for Stormwater Piping
- 33 42 26 End Sections for Stormwater Piping
- 33 42 26.11 Aluminum End Sections for Stormwater Piping
- 33 42 26.13 Steel End Sections for Stormwater Piping
- 33 42 26.16 Corrugated Metal End Sections for Stormwater Piping
- 33 42 26.23 Concrete End Sections for Stormwater Piping
- 33 42 31 Stormwater Area Drains and Inlets
- 33 42 33 Stormwater Curbside Drains and Inlets
- 33 42 36 Stormwater Trench Drains
- 33 42 41 Gratings and Frames for Stormwater Drainage Inlets
- 33 42 41.11 Aluminum Gratings and Frames for Stormwater Drainage inlets
- 33 42 41.21 Brass Gratings and Frames for Stormwater Drainage inlets
- 33 42 41.31 Cast-Iron Gratings and Frames for Stormwater Drainage Inlets
- 33 42 41.41 Chrome Gratings and Frames for Stormwater Drainage inlets
- 33 42 41.51 Steel Gratings and Frames for Stormwater Drainage Inlets
- 33 42 41.61 Fiberglass Gratings and Frames for Stormwater Drainage Inlets

### **33 44 00 Stormwater Utility Equipment**

- 33 44 11 Field-Erected Stormwater Pumping Stations
- 33 44 13 Packaged Stormwater Pumping Stations
- 33 44 21 Stormwater Downspout Filters
- 33 44 23 Inline Stormwater Filters
- 33 44 26 Stormwater Catch Basin Insert Filters
- 33 44 27 Stormwater Trench Drain Insert Filters
- 33 44 31 Stormwater Membrane Filtration
- 33 44 33 Stormwater Trash and Debris Guards
- 33 44 36 Oil and Stormwater Separators
- 33 44 43 Vortex-Type Hydrodynamic Separators
- 33 44 53 Stormwater Area Drainage Pop-up Relief Valves

### **33 46 00 Stormwater Management**

- 33 46 11 Stormwater Ponds
- 33 46 11.13 Stormwater Detention Ponds
- 33 46 11.23 Stormwater Retention Ponds
- 33 46 11.33 Fire Protection Ponds
- 33 46 11.43 Cooling Water Ponds
- 33 46 16 Outlet Structures for Stormwater Ponds
- 33 46 16.13 Stormwater Pond Concrete Outlet Structures
- 33 46 16.23 Stormwater Pond Fiberglass Outlet Structures
- 33 46 23 Modular Buried Stormwater Storage Units
- 33 46 39 Rain Barrels

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|-----------------|----------------------------------------------------------------------------|
| 33 46 53        | Stormwater Leaching Pits                                                   |
| 33 46 56        | Tree Box Filters                                                           |
| 33 46 59        | Concrete Modular Biofiltration Cells                                       |
| 33 46 63        | Swale Protection Prefilters                                                |
| <b>33 50 00</b> | <b>Hydrocarbon Utilities</b>                                               |
| <b>33 51 00</b> | <b>Hydrocarbon Sources</b>                                                 |
| 33 51 13        | Appraisal Wells for Liquid Hydrocarbons                                    |
| 33 51 16        | Appraisal Wells for Gaseous Hydrocarbons                                   |
| 33 51 23        | Production Wells for Liquid Hydrocarbons                                   |
| 33 51 26        | Production Wells for Gaseous Hydrocarbons                                  |
| 33 51 33        | Liquid Injection Wells                                                     |
| 33 51 36        | Gas Injection Wells                                                        |
| 33 51 39        | Monitoring Wells                                                           |
| 33 51 53        | Reciprocating Pumpjack                                                     |
| 33 51 56        | Submersible Liquid Hydrocarbon Pumps                                       |
| <b>33 52 00</b> | <b>Hydrocarbon Transmission and Distribution</b>                           |
| 33 52 13        | Liquid Hydrocarbon Piping                                                  |
| 33 52 16        | Gas Hydrocarbon Piping                                                     |
| 33 52 16.13     | Steel Natural Gas Piping                                                   |
| 33 52 16.23     | Medium Density Polyethylene Piping for Natural Gas                         |
| 33 52 16.26     | High Density Polyethylene Piping for Natural Gas                           |
| 33 52 19        | Hydrocarbon Piping Handling                                                |
| 33 52 19.13     | Hydrocarbon Piping Stringing, Storing, and Stacking                        |
| 33 52 23        | Hydrocarbon Piping Welding                                                 |
| 33 52 23.13     | Liquid Hydrocarbon Piping Welding                                          |
| 33 52 23.16     | Gas Hydrocarbon Piping Welding                                             |
| 33 52 26        | Hydrocarbon Piping Pigging                                                 |
| 33 52 26.13     | Hydrocarbon Piping Pig Launchers                                           |
| 33 52 26.16     | Hydrocarbon Piping Pig Receivers                                           |
| 33 52 26.23     | Pigs for Hydrocarbon Piping                                                |
| <b>33 53 00</b> | <b>Hydrocarbon Utility Pressure Regulation</b>                             |
| 33 53 13        | Liquid Hydrocarbon Pressure Regulation                                     |
| 33 53 16        | Gas Hydrocarbon Pressure Regulation                                        |
| <b>33 54 00</b> | <b>Hydrocarbon Utility Safety Equipment</b>                                |
| 33 54 13        | Liquid Hydrocarbon Leak Detection Equipment                                |
| 33 54 16        | Gas Hydrocarbon Leak Detection Equipment                                   |
| 33 54 23        | Hydrocarbon Pipeline Venting                                               |
| 33 54 23.13     | Liquid Hydrocarbon Pipeline Venting                                        |
| 33 54 23.16     | Gas Hydrocarbon Pipeline Venting                                           |
| <b>33 56 00</b> | <b>Hydrocarbon Storage</b>                                                 |
| 33 56 13        | Aboveground Hydrocarbon Storage Tanks                                      |
| 33 56 21        | Ground-Level Fixed Roof Hydrocarbon Storage Tanks                          |
| 33 56 21.13     | Double-Wall Ground-Level Fixed Roof Metallic Hydrocarbon Storage Tanks     |
| 33 56 21.16     | Single-Wall Ground-Level Fixed Roof Metallic Hydrocarbon Storage Tanks     |
| 33 56 21.23     | Single-Wall Ground-Level Fixed Roof Non-Metallic Hydrocarbon Storage Tanks |
| 33 56 21.26     | Double-Wall Ground-Level Fixed Roof Non-Metallic Hydrocarbon Storage Tanks |
| 33 56 23        | Ground-Level External Floating Roof Hydrocarbon Storage Tanks              |
| 33 56 26        | Ground-Level Internal Floating Roof Hydrocarbon Storage Tanks              |
| 33 56 33        | Underground Hydrocarbon Storage                                            |
| 33 56 33.13     | Double-Wall Metallic Underground Hydrocarbon Storage Tanks                 |

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|-----------------|------------------------------------------------------------------|
| 33 56 33.23     | Single-Wall Metallic Underground Hydrocarbon Storage Tanks       |
| 33 56 33.26     | Single-Wall Non-Metallic Underground Hydrocarbon Storage Tanks   |
| 33 56 33.29     | Double-Wall Non-Metallic Underground Hydrocarbon Storage Tanks   |
| 33 56 33.43     | Underground Hydrocarbon Storage Caverns                          |
| 33 56 43        | Aviation Fuel Storage Tanks                                      |
| 33 56 43.13     | Ground-Level Aviation Fuel Storage Tanks                         |
| 33 56 43.53     | Underground Aviation Fuel Storage Tanks                          |
| 33 56 53        | Compressed Gaseous Hydrocarbon Storage Tanks                     |
| 33 56 60        | Moveable Hydrocarbon Storage Tanks                               |
| 33 56 93        | Hydrocarbon Tank Linings                                         |
| 33 56 96        | Hydrocarbon Storage Tank Appurtenances                           |
| <b>33 57 00</b> | <b>Bulk Hydrocarbons Receiving/Dispensing Equipment</b>          |
| <b>33 59 00</b> | <b>Hydrocarbon Utility Metering</b>                              |
| 33 59 11        | Diaphragm/Bellows Hydrocarbons Meters                            |
| 33 59 13        | Hydrocarbons Rotary Meters                                       |
| 33 59 16        | Hydrocarbons Turbine Meters                                      |
| 33 59 19        | Hydrocarbons Orifice Meters                                      |
| 33 59 23        | Hydrocarbons Ultrasonic Flow Meters                              |
| 33 59 26        | Hydrocarbons Coriolis Meters                                     |
| 33 59 43        | Liquid Hydrocarbon Sampling and Quality Analysis Instrumentation |
| 33 59 46        | Gas Hydrocarbon Sampling and Quality Analysis Instrumentation    |
| <b>33 60 00</b> | <b>Hydronic and Steam Energy Utilities</b>                       |
| <b>33 61 00</b> | <b>Hydronic Energy Distribution</b>                              |
| 33 61 13        | Buried Hydronic Energy Distribution                              |
| 33 61 23        | Ground-Level Hydronic Energy Distribution                        |
| 33 61 27        | Prefabricated Energy Distribution                                |
| 33 61 29        | Pre-Engineered, Field-Assembled Energy Distribution              |
| 33 61 33        | Hydronic Energy Distribution Metering                            |
| <b>33 63 00</b> | <b>Steam Energy Distribution</b>                                 |
| 33 63 13        | Underground Steam and Condensate Distribution Piping             |
| 33 63 13.13     | Shallow-Trench Steam Distribution Piping                         |
| 33 63 13.16     | Utilidor Steam Distribution Piping                               |
| 33 63 23        | Ground-Level Steam and Condensate Distribution Piping            |
| 33 63 33        | Steam Energy Distribution Metering                               |
| <b>33 70 00</b> | <b>Electrical Utilities</b>                                      |
| <b>33 71 00</b> | <b>Electrical Utility Transmission and Distribution</b>          |
| 33 71 13        | Electrical Utility Towers                                        |
| 33 71 13.13     | Precast Concrete Electrical Utility Towers                       |
| 33 71 13.23     | Steel Electrical Utility Towers                                  |
| 33 71 13.33     | Wood Electrical Utility Towers                                   |
| 33 71 16        | Electrical Poles                                                 |
| 33 71 16.13     | Precast Concrete Electrical Utility Poles                        |
| 33 71 16.23     | Steel Electrical Utility Poles                                   |
| 33 71 16.33     | Wood Electrical Utility Poles                                    |
| 33 71 19        | Electrical Underground Ducts, Ductbanks, and Manholes            |
| 33 71 19.13     | Electrical Manholes and Handholes                                |
| 33 71 19.23     | Trenched Electrical Underground Duct and Ductbanks               |
| 33 71 19.33     | Trenchless Electrical Underground Duct and Ductbanks             |
| 33 71 23        | Insulators and Fittings                                          |
| 33 71 23.13     | Suspension Insulators                                            |

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|-----------------|-------------------------------------------------------------------|
| 33 71 23.16     | Post Insulators                                                   |
| 33 71 23.23     | Potheads                                                          |
| 33 71 26        | Transmission and Distribution Equipment                           |
| 33 71 26.13     | Capacitor Banks                                                   |
| 33 71 26.16     | Coupling Capacitors                                               |
| 33 71 26.23     | Current Transformers                                              |
| 33 71 26.26     | Potential Transformers                                            |
| 33 71 36        | Extra-High-Voltage Transmission Wiring                            |
| 33 71 36.13     | Overhead Extra-High-Voltage Transmission Wiring                   |
| 33 71 39        | High-Voltage Transmission Wiring                                  |
| 33 71 39.13     | Overhead High-Voltage Transmission Wiring                         |
| 33 71 39.23     | Underground High-Voltage Transmission Wiring                      |
| 33 71 39.33     | Underwater High-Voltage Transmission Wiring                       |
| 33 71 49        | Medium-Voltage Transmission Wiring                                |
| 33 71 49.13     | Overhead Medium-Voltage Transmission Wiring                       |
| 33 71 49.23     | Underground Medium-Voltage Transmission Wiring                    |
| 33 71 49.33     | Underwater Medium-Voltage Transmission Wiring                     |
| 33 71 53        | Direct-Current Transmission                                       |
| 33 71 73        | Electrical Utility Services                                       |
| 33 71 83        | Transmission and Distribution Specialties                         |
| <b>33 72 00</b> | <b>Utility Substations</b>                                        |
| 33 72 13        | Deadend Structures                                                |
| 33 72 23        | Structural Bus Supports                                           |
| 33 72 23.13     | Bus Support Insulators                                            |
| 33 72 26        | Substation Bus Assemblies                                         |
| 33 72 26.13     | Aluminum Substation Bus Assemblies                                |
| 33 72 26.16     | Copper Substation Bus Assemblies                                  |
| 33 72 33        | Control House Equipment                                           |
| 33 72 33.13     | Relays                                                            |
| 33 72 33.16     | Substation Control Panels                                         |
| 33 72 33.23     | Power-Line Carriers                                               |
| 33 72 33.26     | Substation Metering                                               |
| 33 72 33.43     | Substation DC Supply                                              |
| 33 72 43        | Substation Control Wiring                                         |
| 33 72 53        | Shunt Reactors                                                    |
| 33 72 63        | Substation Disconnect Switches                                    |
| 33 72 63.13     | Vertical Break Disconnect Switches                                |
| 33 72 63.16     | Double End Break Disconnect Switches                              |
| 33 72 63.19     | Double End Break "Vee" Disconnect Switches                        |
| 33 72 63.21     | Center Break Disconnect Switches                                  |
| 33 72 63.23     | Center Break "Vee" Disconnect Switches                            |
| 33 72 63.26     | Single Side Break Disconnect Switches                             |
| 33 72 63.27     | Vertical Reach Disconnect Switches                                |
| 33 72 63.29     | Grounding for Substation Disconnect Switches                      |
| 33 72 63.31     | Hook Sticks                                                       |
| <b>33 73 00</b> | <b>Utility Transformers</b>                                       |
| 33 73 13        | Liquid-Filled Utility Transformers                                |
| 33 73 23        | Dry-Type Utility Transformers                                     |
| <b>33 74 00</b> | <b>Extra High Voltage (EHV) Switchgear and protection devices</b> |
| 33 74 13        | Air EHV Circuit Breaker                                           |
| 33 74 16        | Oil EHV Circuit Breaker                                           |

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| 33 74 19        | Gas EHV Circuit Breaker                                         |
| 33 74 30        | EHV Disconnect switch                                           |
| 33 74 36        | EHV Utility Fuses                                               |
| 33 74 39        | EHV Surge Arresters                                             |
| 33 74 40        | EHV Rod Gap                                                     |
| 33 74 43        | EVH Shunt Reactors                                              |
| 33 74 43.13     | EHV Shunt Reactor Banks                                         |
| 33 74 43.16     | EHV Current Limiting Reactors                                   |
| <b>33 75 00</b> | <b>High-Voltage Switchgear and Protection Devices</b>           |
| 33 75 13        | Air High-Voltage Circuit Breaker                                |
| 33 75 16        | Oil High-Voltage Circuit Breaker                                |
| 33 75 19        | Gas High-Voltage Circuit Breaker                                |
| 33 75 23        | Vacuum High-Voltage Circuit Breaker                             |
| 33 75 30        | High-Voltage Disconnect Switch                                  |
| 33 75 36        | High-Voltage Utility Fuses                                      |
| 33 75 39        | High-Voltage Surge Arresters                                    |
| 33 75 40        | High-Voltage Rod Gap                                            |
| <b>33 77 00</b> | <b>Medium-Voltage Utility Switchgear and Protection Devices</b> |
| 33 77 13        | Air Medium-Voltage Circuit Breaker                              |
| 33 77 16        | Oil Medium-Voltage Circuit Breaker                              |
| 33 77 19        | Gas Medium-Voltage Circuit Breaker                              |
| 33 77 23        | Vacuum Medium-Voltage Circuit Breaker                           |
| 33 77 26        | Medium-Voltage Utility Fusible Interrupter Switchgear           |
| 33 77 30        | Medium-Voltage Disconnect Switch                                |
| 33 77 33        | Medium-Voltage Utility Cutouts                                  |
| 33 77 36        | Medium-Voltage Utility Fuses                                    |
| 33 77 39        | Medium-Voltage Utility Surge Arresters                          |
| 33 77 40        | Medium-Voltage Rod Gap                                          |
| 33 77 53        | Medium-Voltage Utility Reclosers                                |
| <b>33 78 00</b> | <b>Substation Converter Stations</b>                            |
| <b>33 79 00</b> | <b>Site Grounding</b>                                           |
| 33 79 13        | Site Improvement Grounding                                      |
| 33 79 13.13     | Fence Grounding                                                 |
| 33 79 16        | Tower Grounding                                                 |
| 33 79 16.13     | Communications Tower Grounding                                  |
| 33 79 16.16     | Antenna Tower Grounding                                         |
| 33 79 19        | Utilities Grounding                                             |
| 33 79 19.13     | Electrical Utilities Grounding                                  |
| 33 79 19.16     | Communications Utilities Grounding                              |
| 33 79 23        | Utility Substation Grounding                                    |
| 33 79 83        | Site Grounding Conductors                                       |
| 33 79 93        | Site Lightning Protection                                       |
| 33 79 93.13     | Lightning Arrestors                                             |
| 33 79 93.16     | Lightning Strike Counters                                       |
| 33 79 93.19     | Lightning Strike Warning Devices                                |
| <b>33 80 00</b> | <b>Communications Utilities</b>                                 |
| <b>33 81 00</b> | <b>Communications Structures</b>                                |
| 33 81 13        | Monopole Communications Towers                                  |

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|-------------|--------------------------------------------------|
| 33 81 16    | Lattice Communications Towers                    |
| 33 81 19    | Guyed Communications Towers                      |
| 33 81 21    | Concealed Communications Towers                  |
| 33 81 23    | Broadcast Communications Towers                  |
| 33 81 27    | Aerial Cable Installation Hardware               |
| 33 81 29    | Communications Vaults, Pedestals, and Enclosures |
| 33 81 63    | Cell Site Shelter Equipment                      |
| 33 81 63.16 | DC Rectifiers                                    |
| 33 81 63.19 | Backup Batteries                                 |
| 33 81 63.23 | Baseband Microwave Processing                    |
| 33 81 63.26 | Base Station Transceivers                        |
| 33 81 63.43 | Remote Monitoring                                |

## **33 82 00      Communications Transmission and Distribution**

|             |                                                                        |
|-------------|------------------------------------------------------------------------|
| 33 82 13    | Copper Communications Transmission and Distribution Cabling            |
| 33 82 13.13 | Copper Splicing and Terminations                                       |
| 33 82 23    | Optical Fiber Communications Transmission and Distribution Cabling     |
| 33 82 23.13 | Optical Fiber Splicing and Terminations                                |
| 33 82 33    | Coaxial Communications Transmission and Distribution Cabling           |
| 33 82 33.13 | Coaxial Splicing and Terminations                                      |
| 33 82 43    | Grounding and Bonding for Communications Transmission and Distribution |
| 33 82 46    | Cable Pressurization Equipment                                         |
| 33 82 53    | Cleaning, Lubrication, and Restoration Chemicals                       |
| 33 82 63    | Shelter Equipment                                                      |
| 33 82 63.13 | Transceivers                                                           |
| 33 82 63.16 | Control Panels                                                         |
| 33 82 63.23 | Power-Line Carriers                                                    |
| 33 82 63.43 | Backup Batteries                                                       |

## **33 83 00      Wireless Communications Transmission and Distribution**

|             |                                      |
|-------------|--------------------------------------|
| 33 83 13    | Laser Transmitters and Receivers     |
| 33 83 16    | Microwave Transmitters and Receivers |
| 33 83 17    | Microwave Antennas                   |
| 33 83 17.13 | Microwave Waveguides                 |
| 33 83 19    | Infrared Transmitters and Receivers  |
| 33 83 23    | Radio Antennas                       |

## **34 00 00      Transportation**

### **34 01 00      Operation and Maintenance of Transportation**

|             |                                        |
|-------------|----------------------------------------|
| 34 01 13    | Operation and Maintenance of Roadways  |
| 34 01 23    | Operation and Maintenance of Railways  |
| 34 01 23.13 | Track Removal and Salvage              |
| 34 01 23.81 | Track Crosstie Replacement             |
| 34 01 33    | Operation and Maintenance of Airfields |
| 34 01 43    | Operation and Maintenance of Bridges   |

### **34 05 00      Common Work Results for Transportation**

|          |                                         |
|----------|-----------------------------------------|
| 34 05 05 | Selective Demolition for Transportation |
| 34 05 13 | Common Work Results for Roadways        |
| 34 05 23 | Common Work Results for Railways        |
| 34 05 33 | Common Work Results for Airports        |
| 34 05 43 | Common Work Results for Bridges         |

### **34 06 00      Schedules for Transportation**



|                 |                                        |
|-----------------|----------------------------------------|
| 34 06 13        | Schedules for Roadways                 |
| 34 06 23        | Schedules for Railways                 |
| 34 06 33        | Schedules for Airfields                |
| 34 06 43        | Schedules for Bridges                  |
| <b>34 08 00</b> | <b>Commissioning of Transportation</b> |
| 34 08 13        | Commissioning of Roadways              |
| 34 08 23        | Commissioning of Railways              |
| 34 08 33        | Commissioning of Airfields             |
| 34 08 43        | Commissioning of Bridges               |
| <b>34 10 00</b> | <b>Guideways/Railways</b>              |
| <b>34 11 00</b> | <b>Rail Tracks</b>                     |
| 34 11 13        | Track Rails                            |
| 34 11 13.13     | Light Rail Track                       |
| 34 11 13.23     | Heavy Rail Track                       |
| 34 11 16        | Welded Track Rails                     |
| 34 11 16.13     | In-Track Butt-Welded Track Rail        |
| 34 11 16.16     | Pressure-Welded Track Rail             |
| 34 11 16.19     | Thermite-Welded Track Rail             |
| 34 11 19        | Track Rail Joints                      |
| 34 11 23        | Special Trackwork                      |
| 34 11 23.13     | Ballasted Special Track Rail           |
| 34 11 23.16     | Direct-Fixation Track                  |
| 34 11 23.23     | Running Rail                           |
| 34 11 23.26     | Precurved Running Rail                 |
| 34 11 26        | Ballasted Track Rail                   |
| 34 11 26.13     | Track Rail Ballast                     |
| 34 11 26.16     | Track Rail Subballast                  |
| 34 11 29        | Embedded Track Rail                    |
| 34 11 33        | Track Cross Ties                       |
| 34 11 33.13     | Concrete Track Cross Ties              |
| 34 11 33.16     | Timber Track Cross Ties                |
| 34 11 33.19     | Resilient Track Cross Ties             |
| 34 11 36        | Track Rail Fasteners                   |
| 34 11 36.13     | Direct-Fixation Fasteners              |
| 34 11 39        | Track Collector Pans                   |
| 34 11 39.13     | Fiberglass Track Collector Pans        |
| 34 11 93        | Track Appurtenances and Accessories    |
| <b>34 12 00</b> | <b>Monorails</b>                       |
| 34 12 13        | Elevated Monorails                     |
| 34 12 16        | On-Grade Monorails                     |
| 34 12 19        | Below-Grade Monorails                  |
| 34 12 23        | Maglev Monorail                        |
| 34 12 63        | Monorail Track                         |
| <b>34 13 00</b> | <b>Funiculars</b>                      |
| 34 13 13        | Inclined Railway                       |
| <b>34 14 00</b> | <b>Cable Transportation</b>            |
| 34 14 13        | Aerial Tramways                        |
| 34 14 19        | Gondolas                               |
| 34 14 26        | Funitels                               |
| 34 14 33        | Chairlifts                             |

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| 34 14 39        | Surface Lifts                                         |
| 34 14 46        | Ropeway Tows                                          |
| 34 14 53        | Cable Car Systems                                     |
| <b>34 20 00</b> | <b>Traction Power</b>                                 |
| <b>34 21 00</b> | <b>Traction Power Distribution</b>                    |
| 34 21 13        | High Power Static Frequency Converters                |
| 34 21 16        | Traction Power Substations                            |
| 34 21 16.13     | AC Traction Power Substations                         |
| 34 21 16.16     | DC Traction Power Substations                         |
| 34 21 19        | Traction Power Switchgear                             |
| 34 21 19.13     | AC Traction Power Switchgear                          |
| 34 21 19.16     | DC Traction Power Switchgear                          |
| 34 21 19.23     | Frequency Changer                                     |
| 34 21 23        | Traction Power Transformer-Rectifier Units            |
| <b>34 23 00</b> | <b>Overhead Traction Power</b>                        |
| 34 23 13        | Traction Power Poles                                  |
| 34 23 16        | Overhead Cable Suspension                             |
| 34 23 23        | Overhead Traction Power Cables                        |
| <b>34 24 00</b> | <b>Third Rail Traction Power</b>                      |
| 34 24 13        | Bottom-Contact Third Rail                             |
| 34 24 16        | Side-Contact Third Rail                               |
| 34 24 19        | Top-Contact Third Rail                                |
| <b>34 40 00</b> | <b>Transportation Signaling and Control Equipment</b> |
| <b>34 41 00</b> | <b>Roadway Signaling and Control Equipment</b>        |
| 34 41 13        | Traffic Signals                                       |
| 34 41 16        | Traffic Control Equipment                             |
| 34 41 23        | Roadway Monitoring Equipment                          |
| 34 41 33        | In Roadway Warning Lights                             |
| <b>34 42 00</b> | <b>Railway Signaling and Control Equipment</b>        |
| 34 42 13        | Railway Signals                                       |
| 34 42 13.13     | General Railway Signal Requirements                   |
| 34 42 13.16     | Signal Solid State Coded Track Circuits               |
| 34 42 16        | Train Control Wires and Cables                        |
| 34 42 19        | Vital Interlocking Logic Controllers                  |
| 34 42 23        | Railway Control Equipment                             |
| 34 42 23.13     | Mainline Train Control Room Equipment                 |
| 34 42 23.16     | Yard Train Control Room Equipment                     |
| 34 42 23.19     | Integrated Control Equipment                          |
| 34 42 23.23     | Interlocking Railway Control Equipment                |
| 34 42 26        | Rail Network Equipment                                |
| 34 42 29        | Station Agent Equipment                               |
| 34 42 33        | Yard Management Equipment                             |
| 34 42 36        | Supervisory Control and Data Acquisition              |
| <b>34 43 00</b> | <b>Airfield Signaling and Control Equipment</b>       |
| 34 43 13        | Airfield Signals and Lighting                         |
| 34 43 13.09     | Airport Rotating Beacons                              |
| 34 43 13.10     | Hazard Beacons                                        |

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|-----------------|-------------------------------------------------------|
| 34 43 13.11     | Airport Beacon Towers                                 |
| 34 43 13.12     | Airport Obstruction Lights                            |
| 34 43 13.13     | Airfield Runway Identification Lights                 |
| 34 43 13.16     | Airfield Runway and Taxiway Inset Lighting            |
| 34 43 13.19     | Adhesive for Inset Lighting & Wiring                  |
| 34 43 13.23     | Airfield Short-Approach Lighting Equipment            |
| 34 43 13.26     | Airfield Omni-Directional-Approach Lighting Equipment |
| 34 43 13.29     | Airfield Low-Intensity-Approach Lighting Equipment    |
| 34 43 13.33     | Airfield High-Intensity-Approach Lighting Equipment   |
| 34 43 13.36     | Airfield Precision-Approach Path Indicator Equipment  |
| 34 43 16        | Airfield Landing Equipment                            |
| 34 43 16.13     | Microwave Airfield Landing Equipment                  |
| 34 43 16.16     | Instrument Airfield Landing Equipment                 |
| 34 43 16.19     | Airfield Visual-Approach Slope Indicator Equipment    |
| 34 43 19        | Airfield Traffic Control Tower Equipment              |
| 34 43 23        | Weather Observation Equipment                         |
| 34 43 23.13     | Automatic Weather Observation Equipment               |
| 34 43 23.16     | Airfield Wind Cones                                   |
| 34 43 26        | Airfield Control Equipment                            |
| 34 43 26.13     | Airfield Lighting Control Equipment                   |
| 34 43 26.16     | Airfield Lighting PLC Control Equipment               |
| 34 43 26.19     | Airfield Lighting Regulator Assembly                  |
| <b>34 48 00</b> | <b>Bridge Signaling and Control Equipment</b>         |
| 34 48 13        | Operating Bridge Signals                              |
| 34 48 16        | Operating Bridge Control Equipment                    |
| <b>34 50 00</b> | <b>Transportation Fare Collection Equipment</b>       |
| <b>34 52 00</b> | <b>Vehicle Fare Collection</b>                        |
| 34 52 16        | Vehicle Ticketing Equipment                           |
| 34 52 16.13     | Vehicle Ticket Vending Machines                       |
| 34 52 26        | Vehicle Fare Collection Equipment                     |
| 34 52 26.13     | Vehicle Coin Fare Collection Equipment                |
| 34 52 26.16     | Vehicle Electronic Fare Collection Equipment          |
| 34 52 33        | Vehicle Fare Gates                                    |
| <b>34 54 00</b> | <b>Passenger Fare Collection</b>                      |
| 34 54 16        | Passenger Ticketing Equipment                         |
| 34 54 16.13     | Passenger Ticket Vending Machines                     |
| 34 54 16.16     | Passenger Addfare Machines                            |
| 34 54 16.23     | Passenger Intermodal Transfer Machines                |
| 34 54 26        | Passenger Fare Collection Equipment                   |
| 34 54 26.13     | Passenger Coin Fare Collection Equipment              |
| 34 54 26.16     | Passenger Electronic Fare Collection Equipment        |
| 34 54 33        | Passenger Fare Gates                                  |
| <b>34 70 00</b> | <b>Transportation Construction and Equipment</b>      |
| <b>34 71 00</b> | <b>Roadway Construction</b>                           |
| 34 71 13        | Vehicle Barriers                                      |
| 34 71 13.13     | Vehicle Median Barriers                               |
| 34 71 13.16     | Vehicle Crash Barriers                                |
| 34 71 13.19     | Vehicle Traffic Barriers                              |
| 34 71 13.26     | Vehicle Guide Rails                                   |
| 34 71 13.29     | Vehicle Barrier Fenders                               |

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| 34 71 16        | Impact Attenuating Devices                  |
| 34 71 19        | Vehicle Delineators                         |
| 34 71 19.13     | Fixed Vehicle Delineators                   |
| 34 71 19.16     | Flexible Vehicle Delineators                |
| <b>34 72 00</b> | <b>Railway Construction</b>                 |
| 34 72 13        | Railway Line                                |
| 34 72 16        | Railway Siding                              |
| <b>34 73 00</b> | <b>Airfield Construction</b>                |
| 34 73 13        | Aircraft Tiedowns                           |
| 34 73 16        | Airfield Grounding                          |
| 34 73 16.13     | Aircraft Static Grounding                   |
| 34 73 19        | Jet Blast Barriers                          |
| 34 73 23        | Manufactured Airfield Control Towers        |
| 34 73 26        | Manufactured Helipads                       |
| <b>34 75 00</b> | <b>Roadway Equipment</b>                    |
| 34 75 13        | Operable Roadway Equipment                  |
| 34 75 13.13     | Active Vehicle Barriers                     |
| <b>34 76 00</b> | <b>Railway Equipment</b>                    |
| 34 76 13        | Roadway Crossing Control Equipment          |
| <b>34 77 00</b> | <b>Transportation Equipment</b>             |
| 34 77 13        | Passenger Boarding Bridges                  |
| 34 77 13.13     | Fixed Aircraft Passenger Boarding Bridges   |
| 34 77 13.16     | Movable Aircraft Passenger Boarding Bridges |
| 34 77 13.23     | Ship Passenger Boarding Bridges             |
| 34 77 33        | Baggage Scanning Equipment                  |
| 34 77 36        | Baggage Scales                              |
| 34 77 39        | Baggage Conveying Equipment                 |
| <b>34 78 00</b> | <b>Weighing Equipment</b>                   |
| 34 78 13        | Truck Scales                                |
| 34 78 16        | Weighbridges                                |
| 34 78 23        | Railroad Car Scales                         |
| 34 78 33        | Crane Scales                                |
| <b>34 80 00</b> | <b>Bridges</b>                              |
| <b>34 81 00</b> | <b>Bridge Machinery</b>                     |
| 34 81 13        | Single-Swing Bridge Machinery               |
| 34 81 16        | Double-Swing Bridge Machinery               |
| 34 81 19        | Cantilever Bridge Machinery                 |
| 34 81 23        | Lift Bridge Machinery                       |
| 34 81 26        | Sliding Bridge Machinery                    |
| 34 81 29        | Pontoon Bridge Machinery                    |
| 34 81 32        | Bascule Bridge Machinery                    |
| <b>34 82 00</b> | <b>Bridge Specialties</b>                   |
| 34 82 13        | Bridge Vibration Dampers                    |
| 34 82 13.13     | Visco Elastic Bridge Vibration Dampers      |
| 34 82 13.16     | Tuned-Mass Bridge Vibration Dampers         |
| 34 82 19        | Bridge Pier Protection                      |
| 34 82 19.13     | Bridge Pier Ice Shields                     |
| <b>35 00 00</b> | <b>Waterway and Marine Construction</b>     |

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| <b>35 01 00</b> | <b>Operation and Maintenance of Waterway and Marine Construction</b> |
| 35 01 30        | Operation and Maintenance of Coastal Construction                    |
| 35 01 40        | Operation and Maintenance of Waterway Construction                   |
| 35 01 40.51     | Waterway Dredging                                                    |
| 35 01 40.92     | Preservation of Water Courses                                        |
| 35 01 50        | Operation and Maintenance of Marine Construction                     |
| 35 01 50.51     | Marine Dredging                                                      |
| 35 01 50.71     | Channel Excavation, Cleaning and Deepening                           |
| 35 01 70        | Operation and Maintenance of Dams                                    |
| <b>35 05 00</b> | <b>Common Work Results for Waterway and Marine Construction</b>      |
| 35 05 05        | Selective Demolition for Waterway and Marine Construction            |
| 35 05 30        | Common Work Results for Coastal Construction                         |
| 35 05 40        | Common Work Results for Waterway Construction                        |
| 35 05 50        | Common Work Results for Marine Construction                          |
| 35 05 70        | Common Work Results for Dams                                         |
| <b>35 06 00</b> | <b>Schedules for Waterway and Marine Construction</b>                |
| 35 06 30        | Schedules for Coastal Construction                                   |
| 35 06 40        | Schedules for Waterway Construction                                  |
| 35 06 50        | Schedules for Marine Construction                                    |
| 35 06 70        | Schedules for Dams                                                   |
| <b>35 08 00</b> | <b>Commissioning of Waterway and Marine Construction</b>             |
| 35 08 30        | Commissioning of Coastal Construction                                |
| 35 08 40        | Commissioning of Waterway Construction                               |
| 35 08 50        | Commissioning of Marine Construction                                 |
| 35 08 70        | Commissioning of Dams                                                |
| <b>35 10 00</b> | <b>Waterway and Marine Signaling and Control Equipment</b>           |
| <b>35 11 00</b> | <b>Signaling and Control Equipment for Waterways</b>                 |
| 35 11 13        | Signaling Equipment for Waterways                                    |
| 35 11 53        | Control Equipment for Waterways                                      |
| <b>35 12 00</b> | <b>Marine Signaling and Control Equipment</b>                        |
| 35 12 13        | Marine Signaling Equipment                                           |
| 35 12 13.13     | Lighthouse Equipment                                                 |
| 35 12 33        | Marine Navigation Equipment                                          |
| 35 12 53        | Marine Control Equipment                                             |
| <b>35 13 00</b> | <b>Signaling and Control Equipment for Dams</b>                      |
| 35 13 13        | Signaling Equipment for Dams                                         |
| 35 13 53        | Control Equipment for Dams                                           |
| <b>35 20 00</b> | <b>Waterway and Marine Construction and Equipment</b>                |
| <b>35 21 00</b> | <b>General Fabrications for Waterways</b>                            |
| 35 21 13        | Hydraulic Bifurcation Panels                                         |
| 35 21 16        | Hydraulic Bulkheads                                                  |
| 35 21 19        | Hydraulic Manifolds                                                  |

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|-----------------|----------------------------------|
| 35 21 23        | Penstocks                        |
| 35 21 33        | Trash Racks                      |
| 35 21 36        | Debris Cages                     |
| <b>35 22 00</b> | <b>Hydraulic Gates</b>           |
| 35 22 13        | Spillway Crest Gates             |
| 35 22 19        | Hydraulic Head Gates             |
| 35 22 26        | Sluice Gates                     |
| 35 22 33        | Miter Gates                      |
| 35 22 39        | Sector Gates                     |
| 35 22 46        | Tainter Gates                    |
| 35 22 53        | Vertical Lift Hydraulic Gates    |
| 35 22 59        | Hydraulic Closure Gates          |
| 35 22 63        | Through-Levee Access Gates       |
| <b>35 24 00</b> | <b>Dredging</b>                  |
| 35 24 13        | Suction Dredging                 |
| 35 24 13.11     | Training Suction Dredging        |
| 35 24 13.13     | Cutter Suction Dredging          |
| 35 24 13.16     | Auger Suction Dredging           |
| 35 24 13.23     | Jet-Lift Dredging                |
| 35 24 13.26     | Air-Lift Dredging                |
| 35 24 21        | Bucket Dredging                  |
| 35 24 23        | Clamshell Dredging               |
| 35 24 26        | Backhoe/Dipper Dredging          |
| 35 24 33        | Water Injection Dredging         |
| 35 24 36        | Pneumatic Dredging               |
| 35 24 43        | Bed-Levelling Dredging           |
| 35 24 46        | Krabbelaar Dredging              |
| 35 24 53        | Waterway Snag Removal            |
| <b>35 30 00</b> | <b>Coastal Construction</b>      |
| <b>35 31 00</b> | <b>Shoreline Protection</b>      |
| 35 31 16        | Seawalls                         |
| 35 31 16.13     | Concrete Seawalls                |
| 35 31 16.16     | Segmental Seawalls               |
| 35 31 16.19     | Steel Sheet Piling Seawalls      |
| 35 31 16.23     | Timber Seawalls                  |
| 35 31 16.40     | Stone Seawalls                   |
| 35 31 19        | Revetments                       |
| 35 31 19.13     | Sacked Cement-Sand Revetments    |
| 35 31 19.16     | Concrete Unit Masonry Revetments |
| 35 31 19.36     | Gabion Revetments                |
| 35 31 19.40     | Stone Revetments                 |
| 35 31 23        | Breakwaters                      |
| 35 31 23.13     | Rubble Mound Breakwaters         |
| 35 31 23.16     | Precast Breakwater Modules       |
| 35 31 26        | Jetties                          |
| 35 31 26.13     | Concrete Jetties                 |
| 35 31 26.16     | Concrete Unit Masonry Jetties    |
| 35 31 26.36     | Gabion Jetties                   |
| 35 31 26.40     | Stone Jetties                    |
| 35 31 29        | Groins                           |
| 35 31 29.13     | Concrete Groins                  |

|             |                              |
|-------------|------------------------------|
| 35 31 29.16 | Concrete Unit Masonry Groins |
| 35 31 29.26 | Steel Groins                 |
| 35 31 29.36 | Gabion Groins                |
| 35 31 29.40 | Stone Groins                 |

**35 32 00****Artificial Reefs**

|             |                                       |
|-------------|---------------------------------------|
| 35 32 13    | Scrap Material Artificial Reefs       |
| 35 32 13.13 | Scrap Concrete Artificial Reefs       |
| 35 32 13.19 | Scrap Steel Artificial Reefs          |
| 35 32 13.33 | Sunken Ship Artificial Reefs          |
| 35 32 16    | Constructed Artificial Reefs          |
| 35 32 16.13 | Constructed Concrete Artificial Reefs |
| 35 32 16.19 | Constructed Steel Artificial Reefs    |

**35 40 00****Waterway Construction and Equipment****35 41 00****Levees**

|             |                                |
|-------------|--------------------------------|
| 35 41 13    | Landside Levee Berms           |
| 35 41 13.13 | Stability Landside Levee Berms |
| 35 41 13.16 | Seepage Landside Levee Berms   |
| 35 41 16    | Levee Cutoff Trenches          |
| 35 41 19    | Levee Relief Wells             |

**35 42 00****Waterway Bank Protection**

|             |                                            |
|-------------|--------------------------------------------|
| 35 42 13    | Piling Bank Protection                     |
| 35 42 13.19 | Steel Sheet Piling Bank Protection         |
| 35 42 13.23 | Timber Piling Bank Protection              |
| 35 42 13.26 | Plastic Piling Bank Protection             |
| 35 42 29    | Grout-Bag Bank Protection                  |
| 35 42 34    | Soil Reinforcement Bank Protection         |
| 35 42 35    | Slope Protection Bank Protection           |
| 35 42 36    | Gabion Bank Protection                     |
| 35 42 37    | Riprap Bank Protection                     |
| 35 42 53    | Wall Bank Protection                       |
| 35 42 53.16 | Concrete Unit Masonry Wall Bank Protection |
| 35 42 53.19 | Segmental Wall Bank Protection             |
| 35 42 53.40 | Stone Wall Bank Protection                 |

**35 43 00****Waterway Scour Protection**

|             |                                             |
|-------------|---------------------------------------------|
| 35 43 29    | Grout-Bag Scour Protection                  |
| 35 43 34    | Soil Reinforcement Scour Protection         |
| 35 43 35    | Slope Protection Scour Protection           |
| 35 43 36    | Gabion Scour Protection                     |
| 35 43 37    | Riprap Scour Protection                     |
| 35 43 53    | Wall Scour Protection                       |
| 35 43 53.13 | Concrete Unit Masonry Wall Scour Protection |
| 35 43 53.16 | Segmental Wall Scour Protection             |
| 35 43 53.40 | Stone Wall Scour Protection                 |

**35 49 00****Waterway Structures**

|             |                         |
|-------------|-------------------------|
| 35 49 13    | Floodwalls              |
| 35 49 13.13 | Concrete Floodwalls     |
| 35 49 13.16 | Masonry Floodwalls      |
| 35 49 23    | Waterway Locks          |
| 35 49 23.13 | Concrete Waterway Locks |
| 35 49 23.23 | Piling Waterway Locks   |
| 35 49 26    | Floodgate Machinery     |

## **35 50 00 Marine Construction and Equipment**

### **35 51 00 Floating Construction**

- 35 51 13 Floating Piers
- 35 51 13.23 Floating Wood Piers
- 35 51 13.26 Floating Plastic Piers
- 35 51 23 Pontoons

### **35 52 00 Offshore Platform Construction**

- 35 52 13 Fixed Offshore Platform Construction
- 35 52 23 Semi-Submersible Offshore Platform Construction
- 35 52 33 Floating Offshore Platform Construction

### **35 53 00 Underwater Construction**

- 35 53 23 Underwater Harbor Deepening
- 35 53 33 Underwater Pipeline Construction
- 35 53 43 Underwater Foundation Construction
- 35 53 53 Underwater Structures Construction
- 35 53 63 Underwater Waterproofing

### **35 59 00 Marine Specialties**

- 35 59 13 Marine Fenders
- 35 59 13.13 Prestressed Concrete Marine Fender Piling
- 35 59 13.16 Resilient Foam-Filled Marine Fenders
- 35 59 13.19 Rubber Marine Fenders
- 35 59 23 Buoys
- 35 59 23.13 Mooring Buoys
- 35 59 23.16 Anchor Pendant Buoys
- 35 59 23.19 Navigation Buoys
- 35 59 29 Mooring Devices
- 35 59 29.13 Quick-Release Mooring Hooks
- 35 59 29.16 Laser Docking Systems
- 35 59 29.19 Capstans
- 35 59 33 Marine Bollards and Cleats
- 35 59 33.13 Cast-Steel Marine Bollards and Cleats
- 35 59 33.16 Cast-Iron Marine Bollards and Cleats
- 35 59 33.19 Stainless-Steel Marine Bollards and Cleats
- 35 59 33.23 Plastic Marine Bollards and Cleats
- 35 59 93 Marine Chain and Accessories
- 35 59 93.13 Marine Chain
- 35 59 93.16 Marine Shackles
- 35 59 93.19 Marine Chain Tensioners

## **35 70 00 Dam Construction and Equipment**

### **35 71 00 Gravity Dams**

- 35 71 13 Concrete Gravity Dams
- 35 71 16 Masonry Gravity Dams
- 35 71 19 Rockfill Gravity Dams

### **35 72 00 Arch Dams**

- 35 72 13 Concrete Arch Dams

### **35 73 00 Embankment Dams**

- 35 73 13 Earth Embankment Dam
- 35 73 16 Rock Embankment Dams

### **35 74 00 Buttress Dams**



|                 |                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------|
| 35 74 13        | Concrete Buttress Dams                                                                          |
| <b>35 79 00</b> | <b>Auxiliary Dam Structures</b>                                                                 |
| 35 79 13        | Fish Ladders                                                                                    |
| 35 79 13.13     | Concrete Fish Ladders                                                                           |
| <b>40 00 00</b> | <b>Process Interconnections</b>                                                                 |
| <b>40 01 00</b> | <b>Operation and Maintenance of Process Interconnections</b>                                    |
| 40 01 10        | Operation and Maintenance of Gas and Vapor Process Piping                                       |
| 40 01 20        | Operation and Maintenance of Liquids Process Piping                                             |
| 40 01 30        | Operation and Maintenance of Solid and Mixed Materials Piping and Chutes                        |
| 40 01 40        | Operation and Maintenance of Process Piping and Equipment Protection                            |
| 40 01 60        | Operation and Maintenance of Process Control and Process Facility Enterprise Management Systems |
| 40 01 70        | Operation and Maintenance of Instrumentation for Process Systems                                |
| 40 01 90        | Operation and Maintenance of Primary Control Devices                                            |
| <b>40 05 00</b> | <b>Common Work Results for Process Interconnections</b>                                         |
| 40 05 05        | Exposed Piping Installation                                                                     |
| 40 05 06        | Couplings, Adapters, and Specials for Process Piping                                            |
| 40 05 07        | Hangers and Supports for Process Piping                                                         |
| 40 05 09        | Wall Pipes, Floor Pipes, and Pipe Sleeves                                                       |
| 40 05 11        | Aluminum Process Pipe                                                                           |
| 40 05 12        | Brass Process Pipe                                                                              |
| 40 05 13        | Bronze Process Pipe                                                                             |
| 40 05 17        | Copper Process Pipe and Tubing                                                                  |
| 40 05 19        | Ductile Iron Process Pipe                                                                       |
| 40 05 21        | High-Alloy Nickel Process Pipe and Tubing                                                       |
| 40 05 23        | Stainless Steel Process Pipe and Tubing                                                         |
| 40 05 23.13     | Duplex and Super-Duplex Stainless Steel Process Pipe                                            |
| 40 05 23.23     | 300- and 400-Series Stainless Steel Process Pipe                                                |
| 40 05 23.33     | Special-Fabrication Stainless Steel Process Pipe and Tubing                                     |
| 40 05 24        | Steel Process Pipe                                                                              |
| 40 05 24.13     | Steel Pipe and Tubing for Air and Gas Service                                                   |
| 40 05 24.23     | Steel Pipe for Water Service                                                                    |
| 40 05 24.26     | Steel Pipe and Tubing for Process Liquid Service                                                |
| 40 05 24.33     | Steel Pipe for Bulk Materials Conveyance                                                        |
| 40 05 26        | Other Metals Process Pipe                                                                       |
| 40 05 26.13     | Titanium Process Pipe                                                                           |
| 40 05 26.23     | Tantalum Process Pipe                                                                           |
| 40 05 26.33     | Zirconium Process Pipe                                                                          |
| 40 05 31        | Thermoplastic Process Pipe                                                                      |
| 40 05 31.13     | Polyvinyl Chloride Process Pipe                                                                 |
| 40 05 31.23     | Chlorinated Polyvinyl Chloride Process Pipe                                                     |
| 40 05 31.33     | ABS Process Pipe                                                                                |
| 40 05 31.43     | Polypropylene Process Pipe                                                                      |
| 40 05 31.53     | PVDF Process Pipe                                                                               |
| 40 05 31.63     | High-Purity Plastic Process Pipe                                                                |
| 40 05 31.83     | Flexible Plastic Tubing                                                                         |
| 40 05 33        | High-Density Polyethylene Process Pipe                                                          |
| 40 05 36        | Fiberglass-Reinforced Plastic Process Pipe                                                      |
| 40 05 36.13     | Fiberglass-Reinforced Plastic Pipe for Process Air, Gas, and Odor Service                       |

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|-------------|----------------------------------------------------------------------|
| 40 05 36.23 | Fiberglass-Reinforced Plastic Pipe for Process Liquid Service        |
| 40 05 37    | Centrifugally Cast Fiberglass-Reinforced Polymer Mortar Process Pipe |
| 40 05 38    | PTFE Process Pipe                                                    |
| 40 05 39    | Concrete Pipe                                                        |
| 40 05 39.13 | Concrete Pressure Water Pipe                                         |
| 40 05 39.23 | Concrete Gravity and Drainage Process Pipe                           |
| 40 05 51    | Common Requirements for Process Valves                               |
| 40 05 53    | Process Valves Four-inch Diameter and Larger                         |
| 40 05 56    | Process Valves, Smaller than Four-inch Diameter                      |
| 40 05 57    | Actuators for Process Valves and Gates                               |
| 40 05 57.13 | Manual Actuators                                                     |
| 40 05 57.23 | Electric Motor Actuators                                             |
| 40 05 57.33 | Hydraulic Cylinder Actuators                                         |
| 40 05 57.43 | Hydraulic Actuator Systems                                           |
| 40 05 57.53 | Pneumatic Actuators                                                  |
| 40 05 59    | Hydraulic Gates                                                      |
| 40 05 59.13 | Stop Plates                                                          |
| 40 05 59.16 | Stop Logs                                                            |
| 40 05 59.21 | Aluminum Slide Gates                                                 |
| 40 05 59.23 | Stainless Steel Slide Gates                                          |
| 40 05 59.26 | Fiberglass-Reinforced Plastic Slide Gates                            |
| 40 05 59.33 | Cast Iron Slide Gates                                                |
| 40 05 59.43 | Butterfly Gates                                                      |
| 40 05 61    | Gate Valves                                                          |
| 40 05 61.13 | Solid Wedge Metal-Seated Gate Valves                                 |
| 40 05 61.16 | Double Disc Metal-Seated Gate Valves                                 |
| 40 05 61.23 | Resilient-Seated Gate Valves                                         |
| 40 05 61.43 | Knife Gate Valves                                                    |
| 40 05 62    | Plug Valves                                                          |
| 40 05 62.13 | Eccentric Plug Valves for Gas Service                                |
| 40 05 62.16 | Eccentric Plug Valves for Liquid Service                             |
| 40 05 63    | Ball Valves                                                          |
| 40 05 63.13 | AWWA Metal-Seated Ball Valves                                        |
| 40 05 63.16 | AWWA Resilient-Seated Ball Valves                                    |
| 40 05 63.33 | Metallic Ball Valves                                                 |
| 40 05 63.43 | Plastic Ball Valves                                                  |
| 40 05 64    | Butterfly Valves                                                     |
| 40 05 64.13 | Metal-Seated Butterfly Valves                                        |
| 40 05 64.16 | AWWA Resilient-Seated Butterfly Valves                               |
| 40 05 64.23 | Metallic Industrial Butterfly Valves                                 |
| 40 05 64.26 | Plastic Industrial Butterfly Valves                                  |
| 40 05 64.33 | Butterfly Valves in Air or Gas Service                               |
| 40 05 64.36 | High-Performance Butterfly Valves in Air or Gas Service              |
| 40 05 64.43 | Dampers for Corrosive Gas Service                                    |
| 40 05 65    | Valves for Pump Control and Check Service                            |
| 40 05 65.11 | Angle Valves                                                         |
| 40 05 65.13 | Cone Valves                                                          |
| 40 05 65.16 | Globe Valves                                                         |
| 40 05 65.23 | Swing Check Valves                                                   |
| 40 05 65.26 | Tilting Disc Check Valves                                            |
| 40 05 65.29 | Double-Disk Check Valves                                             |
| 40 05 67    | Specialized Pressure and Flow-Control Valves                         |
| 40 05 67.13 | Reduced-Pressure Zone Backflow Preventers for Process Service        |
| 40 05 67.16 | Double Check Valve Assembly Backflow Preventers for Process Service  |

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| 40 05 67.23     | Pressure Vacuum Breaker Backflow Preventers                |
| 40 05 67.26     | Atmospheric Vacuum Breaker Backflow Preventers             |
| 40 05 67.29     | Hose Connection Vacuum Breaker Backflow Preventers         |
| 40 05 67.33     | Backpressure Valves                                        |
| 40 05 67.36     | Pressure-Regulating Valves                                 |
| 40 05 67.39     | Pressure-Relief Valves                                     |
| 40 05 67.41     | Direct-Acting Surge Relief Valves for Water Service        |
| 40 05 67.43     | Pilot-Operated Surge Relief Valves for Water Service       |
| 40 05 67.44     | Pilot-Operated Surge Arrestor Valves for Water Service     |
| 40 05 67.46     | Electronic Surge Anticipator Valves for Water Service      |
| 40 05 67.47     | Surge Relief Valves for Wastewater Service                 |
| 40 05 67.49     | Electronic Surge Anticipator Valves for Wastewater Service |
| 40 05 71        | Solids Handling Valves                                     |
| 40 05 71.13     | Duckbill Check Valves                                      |
| 40 05 71.16     | Flap Gates                                                 |
| 40 05 71.23     | Mud Valves                                                 |
| 40 05 71.33     | Telescoping Valves                                         |
| 40 05 73        | Special-Application Process Valves                         |
| 40 05 73.13     | Altitude Valves                                            |
| 40 05 73.16     | Float Valves                                               |
| 40 05 73.23     | Anti-Cavitation Valves                                     |
| 40 05 74        | Flexible-Closure Valves                                    |
| 40 05 74.13     | Diaphragm Valves                                           |
| 40 05 74.23     | Pinch Valves                                               |
| 40 05 76        | Hot-Tapping Valves and Appurtenances                       |
| 40 05 76.13     | Tapping Sleeves and Valves                                 |
| 40 05 76.16     | Tapping Machines                                           |
| 40 05 76.23     | Line Stops                                                 |
| 40 05 78        | Air Valves for Water and Wastewater Service                |
| 40 05 78.11     | Air Release Valves for Water Service                       |
| 40 05 78.13     | Air/Vacuum Valves for Water Service                        |
| 40 05 78.16     | Vacuum-Breaking Valves for Water Service                   |
| 40 05 78.19     | Combination Air Valves for Water Service                   |
| 40 05 78.21     | Air Release Valves for Wastewater Service                  |
| 40 05 78.23     | Air/Vacuum Valves for Wastewater Service                   |
| 40 05 78.26     | Vacuum-Breaking Valves for Wastewater Service              |
| 40 05 78.29     | Combination Air Valves for Wastewater Service              |
| 40 05 81        | Hydrants and Hose Bibbs for Process Service                |
| 40 05 81.13     | Fire Hydrants                                              |
| 40 05 81.23     | Yard Hydrants                                              |
| 40 05 81.26     | Freeze-Proof Yard Hydrants                                 |
| 40 05 81.33     | Hose Bibbs                                                 |
| 40 05 82        | Solenoid Valves for Process Service                        |
| 40 05 89        | Valve Accessories                                          |
| 40 05 89.13     | Basket Strainers for Process Service                       |
| 40 05 89.23     | Needle Valves                                              |
| 40 05 89.33     | Quick-Connect Couplers                                     |
| 40 05 93        | Common Motor Requirements for Process Equipment            |
| 40 05 96        | Vibration and Seismic Controls for Process Equipment       |
| 40 05 97        | Identification for Process Equipment                       |
| <b>40 06 00</b> | <b>Schedules for Process Interconnections</b>              |
| 40 06 10        | Schedules for Gas and Vapor Process Piping and Ductwork    |
| 40 06 20        | Schedules for Liquids Process Piping                       |
| 40 06 30        | Schedules for Solid and Mixed Materials Piping and Chutes  |

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|-----------------|----------------------------------------------------------------------------------|
| 40 06 40        | Schedules for Process Piping and Equipment Protection                            |
| 40 06 60        | Schedules for Process Control and Process Facility Enterprise Management Systems |
| 40 06 70        | Schedules of Instrumentation for Process Systems                                 |
| 40 06 90        | Schedules for Primary Control Devices                                            |
| <b>40 10 00</b> | <b>Gas and Vapor Process Piping and Ductwork</b>                                 |
| <b>40 11 00</b> | <b>Steam Process Piping</b>                                                      |
| 40 11 13        | Low-Pressure Steam Process Piping                                                |
| 40 11 16        | Intermediate-Pressure Steam Process Piping                                       |
| 40 11 19        | High-Pressure Steam Process Piping                                               |
| 40 11 23        | Condensate Process Piping for Process Applications                               |
| <b>40 12 00</b> | <b>Compressed Air Process Piping</b>                                             |
| 40 12 13        | Compressed Air Process Piping for Breathing Service                              |
| 40 12 23        | Low-Pressure Compressed Air Process Piping                                       |
| 40 12 53        | High-Pressure Compressed Air Process Piping                                      |
| <b>40 13 00</b> | <b>Process Ductwork</b>                                                          |
| <b>40 15 00</b> | <b>Combustion System Gas Piping</b>                                              |
| 40 15 13        | Combustion Air Piping                                                            |
| 40 15 16        | Oxygen Combustion System Gas Piping                                              |
| 40 15 19        | Flue-Gas Combustion System Piping                                                |
| 40 15 23        | Exothermic-Gas Combustion System Piping                                          |
| 40 15 26        | Endothermic-Gas Combustion System Piping                                         |
| 40 15 29        | Dissociated-Ammonia-Gas Combustion System Piping                                 |
| <b>40 16 00</b> | <b>Specialty and High-Purity Gases Piping</b>                                    |
| 40 16 13        | Ammonia Gas Piping                                                               |
| 40 16 16        | Boron Gas Piping                                                                 |
| 40 16 17        | Chlorine Gas Piping                                                              |
| 40 16 26        | Diborane Gas Piping                                                              |
| 40 16 29        | Fluorine Gas Piping                                                              |
| 40 16 33        | Hydrogen Sulfide Gas Piping                                                      |
| 40 16 36        | Nitrous-Oxide Gas Process Piping                                                 |
| 40 16 37        | Oxygen Gas Process Piping                                                        |
| 40 16 39        | Ozone Gas Process Piping                                                         |
| 40 16 43        | Phosphine Gas Piping                                                             |
| 40 16 46        | Silane Gas Piping                                                                |
| 40 16 49        | Sulfur-Dioxide Gas Piping                                                        |
| 40 16 53        | Specialty Gas Mixtures Piping                                                    |
| 40 16 56        | High-Purity Gas Piping Components                                                |
| <b>40 17 00</b> | <b>Welding and Cutting Gases Piping</b>                                          |
| 40 17 13        | Acetylene Welding and Cutting Piping                                             |
| 40 17 16        | Acetylene-Hydrogen Mix Welding and Cutting Piping                                |
| 40 17 19        | Methylacetylene-Propadiene Welding and Cutting Piping                            |
| 40 17 23        | Oxygen Welding and Cutting Piping                                                |
| 40 17 26        | Inert Gas Welding and Cutting Piping                                             |
| <b>40 18 00</b> | <b>Vacuum Systems Process Piping</b>                                             |
| 40 18 13        | Low-Vacuum Systems Process Piping                                                |
| 40 18 23        | Chlorine Gas Vacuum System Piping                                                |

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|-----------------|------------------------------------------------|
| 40 18 53        | High-Vacuum Systems Process Piping             |
| <b>40 20 00</b> | <b>Liquids Process Piping</b>                  |
| <b>40 21 00</b> | <b>Liquid Fuel Process Piping</b>              |
| 40 21 13        | Bio Fuels Process Piping                       |
| 40 21 13.13     | Bioalcohols Process Piping                     |
| 40 21 13.23     | Biodiesel Fuel Process Piping                  |
| 40 21 13.26     | Green Diesel Fuel Process Piping               |
| 40 21 13.33     | Biomass-to-Liquid (BTL) Fuel Process Piping    |
| 40 21 13.43     | Gas-to-Liquid (GTL) Fuel Process Piping        |
| 40 21 16        | Gasoline Process Piping                        |
| 40 21 19        | Diesel Process Piping                          |
| 40 21 23        | Fuel-Oils Process Piping                       |
| 40 21 23.13     | No. 1 Fuel-Oil Process Piping                  |
| 40 21 23.23     | No. 2 Fuel-Oil Process Piping                  |
| 40 21 23.26     | Kerosene Process Piping                        |
| 40 21 23.29     | Tar Fuels Process Piping                       |
| 40 21 23.43     | No. 4 Fuel-Oil Process Piping                  |
| 40 21 23.53     | No. 5 Fuel-Oil Process Piping                  |
| 40 21 23.63     | No. 6 Fuel-Oil Process Piping                  |
| <b>40 22 00</b> | <b>Petroleum Products Piping</b>               |
| 40 22 10        | Heavy-Fractions Petroleum Products Piping      |
| 40 22 13        | Liquefied Petroleum Gas (LPG) Process Piping   |
| 40 22 16        | Lubricating Oils Process Piping                |
| 40 22 23        | Petrochemicals Process Piping                  |
| 40 22 50        | Light-Fractions Petroleum Products Piping      |
| <b>40 23 00</b> | <b>Water and Wastewater Process Piping</b>     |
| 40 23 13        | Deionized Water Process Piping                 |
| 40 23 16        | Distilled-Water Process Piping                 |
| 40 23 19        | Non-Potable Plant Water Process Piping         |
| 40 23 23        | Potable Water Process Piping                   |
| 40 23 29        | Recirculated Water Process Piping              |
| 40 23 33        | Reverse-Osmosis Water Process Piping           |
| 40 23 40        | Sanitary Wastewater Process Piping             |
| 40 23 41        | Grit Process Piping                            |
| 40 23 43        | Scum and Floatables Process Piping             |
| 40 23 44        | Primary Sludge Process Piping                  |
| 40 23 46        | Waste Sludge Process Piping                    |
| 40 23 48        | Thickened Sludge Process Piping                |
| <b>40 24 00</b> | <b>Specialty Liquid Chemicals Piping</b>       |
| 40 24 13        | Alcohol Piping                                 |
| 40 24 14        | Liquid Chlorine and Sodium Hypochlorite Piping |
| 40 24 16        | Gel Piping                                     |
| 40 24 19        | Slurries Process Piping                        |
| 40 24 23        | Thixotropic Liquid Piping                      |
| <b>40 25 00</b> | <b>Liquid Acids and Bases Piping</b>           |
| 40 25 10        | Liquid Acids Piping                            |
| 40 25 50        | Liquid Bases Piping                            |
| <b>40 26 00</b> | <b>Liquid Polymer Piping</b>                   |

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|-----------------|---------------------------------------------------------|
| <b>40 30 00</b> | <b>Solid and Mixed Materials Piping and Chutes</b>      |
| <b>40 32 00</b> | <b>Bulk Materials Piping and Chutes</b>                 |
| 40 32 10        | Abrasive Materials Piping and Chutes                    |
| 40 32 50        | Nonabrasive Materials Piping and Chutes                 |
| <b>40 33 00</b> | <b>Bulk Materials Valves</b>                            |
| 40 33 13        | Airlock Bulk Materials Valves                           |
| 40 33 16        | Blind Bulk Materials Valves                             |
| 40 33 26        | Diverter Bulk Materials Valves                          |
| 40 33 29        | Double or Single Dump Bulk Materials Valves             |
| 40 33 39        | Swing Bulk Materials Valves                             |
| 40 33 43        | Specialty Bulk Materials Valves                         |
| <b>40 34 00</b> | <b>Pneumatic Conveying Lines</b>                        |
| 40 34 10        | Dense Phase Pneumatic Conveying Lines                   |
| 40 34 50        | Dilute Phase Pneumatic Conveying Lines                  |
| <b>40 40 00</b> | <b>Process Piping and Equipment Protection</b>          |
| <b>40 41 00</b> | <b>Process Piping and Equipment Heat Tracing</b>        |
| 40 41 13        | Process Piping Heat Tracing                             |
| 40 41 13.13     | Process Piping Electrical Resistance Heat Tracing       |
| 40 41 13.16     | Process Piping Electrical Conductance Heat Tracing      |
| 40 41 13.19     | Process Piping Gas Heat Tracing                         |
| 40 41 13.23     | Process Piping Steam Heat Tracing                       |
| 40 41 13.26     | Process Piping Thermal Fluids Heat Tracing              |
| 40 41 23        | Process Equipment Heat Tracing                          |
| 40 41 23.13     | Process Equipment Electrical Resistance Heat Tracing    |
| 40 41 23.16     | Process Equipment Electrical Conductance Heat Tracing   |
| 40 41 23.19     | Process Equipment Gas Heat Tracing                      |
| 40 41 23.23     | Process Equipment Steam Heat Tracing                    |
| 40 41 23.26     | Process Equipment Thermal Fluids Heat Tracing           |
| <b>40 42 00</b> | <b>Process Piping and Equipment Insulation</b>          |
| 40 42 13        | Process Piping Insulation                               |
| 40 42 13.13     | Cryogenic Temperature Process Piping Insulation         |
| 40 42 13.16     | Low Temperature Process Piping Insulation               |
| 40 42 13.19     | Intermediate Temperature Process Piping Insulation      |
| 40 42 13.23     | High Temperature Process Piping Insulation              |
| 40 42 13.26     | Process Piping Insulation for Specialty Applications    |
| 40 42 23        | Process Equipment Insulation                            |
| 40 42 23.13     | Cryogenic Temperature Process Equipment Insulation      |
| 40 42 23.16     | Low Temperature Process Equipment Insulation            |
| 40 42 23.19     | Intermediate Temperature Process Equipment Insulation   |
| 40 42 23.23     | High Temperature Process Equipment Insulation           |
| 40 42 23.26     | Process Equipment Insulation for Specialty Applications |
| <b>40 46 00</b> | <b>Process Corrosion Protection</b>                     |
| 40 46 16        | Coatings and Wrappings for Process Corrosion Protection |
| 40 46 42        | Cathodic Process Corrosion Protection                   |
| <b>40 47 00</b> | <b>Refractories</b>                                     |
| 40 47 13        | Silica Refractories                                     |
| 40 47 16        | Alumina Refractories                                    |
| 40 47 19        | Carbon and Graphite Refractories                        |

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|-----------------|-----------------------------------------------------------------------------|
| 40 47 23        | Castable Refractories                                                       |
| 40 47 26        | Rammed Refractories                                                         |
| 40 47 29        | Refractory Concrete                                                         |
| <b>40 60 00</b> | <b>Process Control and Enterprise Management Systems</b>                    |
| <b>40 61 00</b> | <b>Process Control and Enterprise Management Systems General Provisions</b> |
| 40 61 13        | Process Control System General Provisions                                   |
| 40 61 16        | Enterprise Management System General Provisions                             |
| 40 61 21        | Process Control System Testing                                              |
| 40 61 26        | Process Control System Training                                             |
| 40 61 93        | Process Control System Input/Output List                                    |
| 40 61 96        | Process Control Descriptions                                                |
| <b>40 62 00</b> | <b>Computer System Hardware and Ancillaries</b>                             |
| 40 62 13        | Server Computers                                                            |
| 40 62 16        | Operator Workstation Computers                                              |
| 40 62 19        | Industrial Computers                                                        |
| 40 62 21        | Desktop Computers                                                           |
| 40 62 23        | Mobile Computers                                                            |
| 40 62 26        | Laptop Computers                                                            |
| 40 62 29        | Tablet Computers and Mobile Devices                                         |
| 40 62 33        | Printers                                                                    |
| 40 62 43        | Large Display Screens                                                       |
| 40 62 63        | Operator Interface Terminals (OIT)                                          |
| <b>40 63 00</b> | <b>Control System Equipment</b>                                             |
| 40 63 13        | Distributed Process Control Systems                                         |
| 40 63 43        | Programmable Logic Controllers                                              |
| 40 63 83        | Remote Terminal Units                                                       |
| <b>40 66 00</b> | <b>Network and Communication Equipment</b>                                  |
| 40 66 13        | Switches and Routers                                                        |
| 40 66 16        | Firewall Hardware                                                           |
| 40 66 19        | Media Converters                                                            |
| 40 66 23        | Frame Relay Equipment                                                       |
| 40 66 26        | Device Network Equipment                                                    |
| 40 66 33        | Metallic and Fiber-Optic Communication Cabling and Connectors               |
| 40 66 36        | Process Instrumentation Networks                                            |
| 40 66 43        | Wireless Network Systems                                                    |
| 40 66 53        | Multiple Address Radio Equipment                                            |
| 40 66 56        | Point-to-Point Radio Equipment                                              |
| 40 66 63        | Antennas                                                                    |
| 40 66 66        | Monopoles and Towers                                                        |
| 40 66 73        | Satellite Communication Equipment                                           |
| <b>40 67 00</b> | <b>Control System Equipment Panels and Racks</b>                            |
| 40 67 13        | Computer Equipment Racks                                                    |
| 40 67 16        | Free-Standing Panels                                                        |
| 40 67 19        | Wall-Mounted Panels                                                         |
| 40 67 23        | Control System Consoles                                                     |
| 40 67 33        | Panel Wiring                                                                |

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|-----------------|------------------------------------------------------------------------|
| 40 67 63        | Control Panel-Mounted Uninterruptible Power Supply                     |
| <b>40 68 00</b> | <b>Process Control Software</b>                                        |
| 40 68 13        | Process Control (HMI) Software                                         |
| 40 68 23        | Reporting Software                                                     |
| 40 68 26        | Online Performance Monitoring Systems Software                         |
| 40 68 33        | Maintenance Management Software                                        |
| 40 68 36        | Laboratory Information System Software                                 |
| 40 68 39        | Energy Management Software                                             |
| 40 68 43        | Load Management Software                                               |
| 40 68 63        | Configuration of HMI Software                                          |
| 40 68 66        | Programming of Controller Software                                     |
| 40 68 93        | Computer Operating Systems Software                                    |
| <b>40 69 00</b> | <b>Packaged Control Systems</b>                                        |
| 40 69 13        | Control System Simulators                                              |
| 40 69 23        | Burner Management Systems                                              |
| 40 69 26        | Safety Instrumented Control Systems                                    |
| 40 69 33        | Fire and Gas Monitoring/Protection Systems for Industrial Applications |
| <b>40 70 00</b> | <b>Instrumentation for Process Systems</b>                             |
| <b>40 71 00</b> | <b>Flow Measurement</b>                                                |
| 40 71 13        | Magnetic Flow Meters                                                   |
| 40 71 13.13     | Inline Magnetic Flow Meters                                            |
| 40 71 13.23     | Insertion-Type Magnetic Flow Meters                                    |
| 40 71 23        | Differential Pressure-Type Flow Meters                                 |
| 40 71 23.13     | Venturi Flow Meters                                                    |
| 40 71 23.16     | Flow Tubes                                                             |
| 40 71 23.19     | Flow Nozzle-Type Flow Meters                                           |
| 40 71 23.23     | Orifice Plate Flow Meters                                              |
| 40 71 23.26     | Integral Orifice Flow Meters                                           |
| 40 71 23.29     | Orifice Meter Runs                                                     |
| 40 71 23.33     | Elbow Flow Meters                                                      |
| 40 71 23.36     | Pitot Tube and Averaging Pitot Flow Meters                             |
| 40 71 23.39     | V-Cone Flow Meters                                                     |
| 40 71 23.43     | Differential Pressure-Type Flow Transmitters                           |
| 40 71 23.46     | Flow Computers                                                         |
| 40 71 33        | Propeller Flow Meters                                                  |
| 40 71 36        | Turbine Flow Meters                                                    |
| 40 71 43        | Variable Area Flow Meters                                              |
| 40 71 46        | Target Flow Meters                                                     |
| 40 71 49        | Vortex-Shedding Flow Meters                                            |
| 40 71 53        | Positive Displacement Flow Meters                                      |
| 40 71 63        | Doppler Flow Meters                                                    |
| 40 71 66        | Transit Time Flow Meters                                               |
| 40 71 69        | Open Channel Flow Meters                                               |
| 40 71 73        | Coriolis Flow Meters                                                   |
| 40 71 76        | Thermal Flow Meters                                                    |
| 40 71 79        | Flow Switches                                                          |
| 40 71 83        | Sight Flow Indicators                                                  |
| 40 71 86        | Flow Metering Weirs                                                    |
| <b>40 72 00</b> | <b>Level Measurement</b>                                               |
| 40 72 13        | Ultrasonic Level Meters (Continuous and Point-Type)                    |



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|-----------------|-----------------------------------------------------------|
| 40 72 23        | Radar Level Meters                                        |
| 40 72 26        | Laser Level Meters                                        |
| 40 72 29        | Nuclear Level Meters                                      |
| 40 72 33        | Capacitance Type Level Meters (Continuous and Point Type) |
| 40 72 36        | RF Admittance Level Meters (Continuous and Point Type)    |
| 40 72 43        | Pressure and Differential Pressure Type Level Meters      |
| 40 72 46        | Bubbler Systems                                           |
| 40 72 53        | Magnetic and Magnetostrictive Level Meters                |
| 40 72 63        | Displacement-Type Level Meters                            |
| 40 72 73        | Sight Level Gauges                                        |
| 40 72 76        | Level Switches                                            |
| 40 72 83        | Leak Detection Systems                                    |
| <b>40 73 00</b> | <b>Pressure, Strain, and Force Measurement</b>            |
| 40 73 13        | Pressure and Differential Pressure Gauges                 |
| 40 73 16        | Manometers                                                |
| 40 73 23        | Absolute-Pressure Transmitters                            |
| 40 73 26        | Gauge-Pressure Transmitters                               |
| 40 73 29        | Differential Pressure Transmitters                        |
| 40 73 33        | Multi-Variable Pressure/Temperature Transmitters          |
| 40 73 36        | Pressure and Differential Pressure Switches               |
| 40 73 43        | Force Measurement Devices                                 |
| 40 73 46        | Load Cells                                                |
| 40 73 53        | Torque Measurement Devices                                |
| 40 73 63        | Diaphragm Seals                                           |
| <b>40 74 00</b> | <b>Temperature Measurement</b>                            |
| 40 74 13        | Resistance Temperature Devices                            |
| 40 74 16        | Thermocouples                                             |
| 40 74 23        | Radiation Pyrometers                                      |
| 40 74 33        | Thermistors                                               |
| 40 74 36        | Diode Temperature Measurement Devices                     |
| 40 74 43        | Bimetallic Thermometers                                   |
| 40 74 46        | Fluid Expansion Thermometers                              |
| 40 74 49        | Change-of-State Temperature Measurement Devices           |
| 40 74 53        | Cryogenic Temperature Sensors                             |
| 40 74 63        | Temperature Transmitters                                  |
| 40 74 66        | Temperature Switches                                      |
| 40 74 69        | Thermowells, Protection Tubes, and Test Thermowells       |
| <b>40 75 00</b> | <b>Process Liquid Analytical Measurement</b>              |
| 40 75 05        | Multi-Parameter Analyzer Systems                          |
| 40 75 13        | pH/ORP Analyzers                                          |
| 40 75 16        | Conductivity Analyzers                                    |
| 40 75 19        | Moisture Analyzers                                        |
| 40 75 21        | Chlorine Analyzers                                        |
| 40 75 21.13     | Free-Chlorine Analyzers                                   |
| 40 75 21.23     | Residual-Chlorine Analyzers                               |
| 40 75 23        | Chlorine Dioxide Analyzer                                 |
| 40 75 26        | Dissolved Chlorine Dioxide Analyzers                      |
| 40 75 29        | Dissolved Ammonia Analyzers                               |
| 40 75 33        | Fluoride Analyzers                                        |
| 40 75 43        | Dissolved Oxygen Analyzers                                |

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| 40 75 46        | Dissolved Ozone Analyzers                                     |
| 40 75 53        | Turbidity Analyzers                                           |
| 40 75 56        | Suspended Solids/Sludge Density Analyzers                     |
| 40 75 59        | Liquid Density Analyzers                                      |
| 40 75 63        | Monochloramine Analyzers                                      |
| 40 75 66        | Nitrogen Analyzers                                            |
| 40 75 69        | Phosphorous Analyzers                                         |
| 40 75 73        | Particle Counters                                             |
| 40 75 76        | Total Organic Carbon Analyzers                                |
| 40 75 79        | Total Organics Analyzers                                      |
| 40 75 83        | Hardness Analyzers                                            |
| 40 75 86        | Alkalinity Analyzer                                           |
| <b>40 76 00</b> | <b>Process Gas Analytical Measurement</b>                     |
| 40 76 05        | Continuous Emissions Monitoring Systems                       |
| 40 76 13        | Oxygen Gas Analyzers                                          |
| 40 76 16        | Ozone Analyzers                                               |
| 40 76 23        | Combustible Gas Monitors                                      |
| 40 76 26        | Chlorine Gas Analyzers                                        |
| 40 76 29        | Ammonia Gas Analyzers                                         |
| 40 76 33        | Hydrogen Sulfide Monitors                                     |
| 40 76 36        | Sulfur Dioxide Analyzers                                      |
| 40 76 39        | Carbon Dioxide Analyzers                                      |
| 40 76 43        | Carbon Monoxide Analyzers                                     |
| 40 76 53        | Dewpoint/Moisture Analyzers                                   |
| 40 76 56        | Gas Density Analyzers                                         |
| 40 76 63        | Flue Gas Analyzers                                            |
| 40 76 66        | NO/NOX Analyzers                                              |
| 40 76 73        | Hydrocarbon Analyzers                                         |
| 40 76 76        | Gas Chromatograph Analyzers                                   |
| 40 76 79        | Vapor Pressure Analyzers                                      |
| 40 76 83        | Mass Spectrometers                                            |
| <b>40 77 00</b> | <b>Position and Motion Measurement</b>                        |
| 40 77 13        | Acceleration Measurement Devices                              |
| 40 77 16        | Proximity Measurement Devices                                 |
| 40 77 19        | Vibration Velocity Measurement Devices                        |
| 40 77 23        | Vibration Monitoring Systems                                  |
| 40 77 26        | Position, Speed, and Motion Measurement Devices               |
| <b>40 78 00</b> | <b>Panel Mounted Instruments</b>                              |
| 40 78 13        | Indicators and Meters                                         |
| 40 78 16        | Indicating Lights                                             |
| 40 78 19        | Switches and Push Buttons                                     |
| 40 78 23        | Potentiometers and Manual Controllers                         |
| 40 78 26        | Chart Recorders                                               |
| 40 78 33        | Annunciators                                                  |
| 40 78 43        | Single-Loop Controllers                                       |
| 40 78 53        | Relays                                                        |
| 40 78 56        | Isolators, Intrinsically-Safe Barriers, and Surge Suppressors |
| 40 78 59        | Power Supplies                                                |
| 40 78 63        | Alarm Dialers                                                 |
| <b>40 79 00</b> | <b>Miscellaneous Instruments, Calibration Equipment,</b>      |

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|-----------------|--------------------------------------------------------------------------------|
|                 | <b>Instrument Valves, and Fittings</b>                                         |
| 40 79 13        | Nuclear Mass-Measuring Scales                                                  |
| 40 79 23        | Instrument Calibration Equipment                                               |
| 40 79 26        | Instrument Programming Equipment                                               |
| 40 79 33        | Current-to-Pressure Converters                                                 |
| 40 79 36        | Voltage-to-Pressure Converters                                                 |
| 40 79 39        | Signal Conditioners and Converters                                             |
| 40 79 43        | Deadweight Testers                                                             |
| 40 79 46        | Flame Scanners                                                                 |
| 40 79 63        | Instrument Tubing                                                              |
| 40 79 66        | Instrument Valve Manifolds, Valves, and Fittings                               |
| <b>40 80 00</b> | <b>Commissioning of Process Systems</b>                                        |
| <b>40 90 00</b> | <b>Primary Control Devices</b>                                                 |
| <b>40 91 00</b> | <b>Primary Control Valves</b>                                                  |
| 40 91 13        | Electrically-Operated Primary Control Valves                                   |
| 40 91 16        | Hydraulically-Operated Primary Control Valves                                  |
| 40 91 19        | Pneumatically-Operated Primary Control Valves                                  |
| 40 91 23        | Solenoid Primary Control Valves                                                |
| 40 91 26        | Specialty Primary Control Valves                                               |
| <b>40 92 00</b> | <b>Self-Contained Flow Controllers</b>                                         |
| <b>40 93 00</b> | <b>Linear Actuators and Positioners</b>                                        |
| <b>40 94 00</b> | <b>Self-Contained Pressure Regulators</b>                                      |
| <b>40 95 00</b> | <b>Rotary Actuators</b>                                                        |
| <b>40 96 00</b> | <b>Saturable Core Reactors</b>                                                 |
| <b>40 97 00</b> | <b>Variable Frequency Drives</b>                                               |
| <b>41 00 00</b> | <b>Material Processing and Handling Equipment</b>                              |
| <b>41 01 00</b> | <b>Operation and Maintenance of Material Processing and Handling Equipment</b> |
| 41 01 52        | Operation and Maintenance of Bulk Materials Storage                            |
| 41 01 52.13     | Storage Bin and Hopper Cleaning                                                |
| 41 01 52.16     | Silo Cleaning                                                                  |
| <b>41 05 00</b> | <b>Common Work Results for Material Processing and Handling Equipment</b>      |
| 41 05 05        | Selective Demolition for Material Processing and Handling Equipment            |
| <b>41 06 00</b> | <b>Schedules for Material Processing and Handling Equipment</b>                |
| 41 06 10        | Schedules for Bulk Material Processing Equipment                               |
| 41 06 20        | Schedules for Piece Material Handling Equipment                                |
| 41 06 30        | Schedules for Manufacturing Equipment                                          |
| 41 06 40        | Schedules for Container Processing and Packaging                               |
| 41 06 50        | Schedules for Material Storage                                                 |
| 41 06 60        | Schedules for Mobile Plant Equipment                                           |
| <b>41 08 00</b> | <b>Commissioning of Material Processing and Handling</b>                       |

## **Equipment**

- 41 08 10 Commissioning of Bulk Material Processing Equipment
- 41 08 20 Commissioning of Piece Material Handling Equipment
- 41 08 30 Commissioning of Manufacturing Equipment
- 41 08 40 Commissioning of Container Processing and Packaging
- 41 08 50 Commissioning of Material Storage
- 41 08 60 Commissioning of Mobile Plant Equipment

## **41 10 00 Bulk Material Processing Equipment**

### **41 11 00 Bulk Material Sizing Equipment**

- 41 11 13 Bulk Material Agglomerators
- 41 11 16 Bulk Material Air Mill Classifiers
- 41 11 19 Bulk Material Centrifuges
- 41 11 23 Bulk Material Crushers
- 41 11 26 Bulk Material Cyclones
- 41 11 29 Bulk Material Fluid Bed Separators
- 41 11 33 Bulk Material Grinders
- 41 11 36 Bulk Material Homogenizers
- 41 11 39 Bulk Material Lump Breakers
- 41 11 43 Bulk Material Mills
- 41 11 46 Bulk Material Pulverizers
- 41 11 49 Bulk Material Screens
- 41 11 53 Bulk Material Shredders
- 41 11 56 Bulk Material Sieves

### **41 12 00 Bulk Material Conveying Equipment**

- 41 12 13 Bulk Material Conveyors
- 41 12 13.13 Airslide Bulk Material Conveyors
- 41 12 13.16 Auger Bulk Material Conveyors
- 41 12 13.19 Belt Bulk Material Conveyors
- 41 12 13.23 Container Bulk Material Conveyors
- 41 12 13.26 Drag Chain Bulk Material Conveyors
- 41 12 13.29 Hopper Bulk Material Conveyors
- 41 12 13.33 Reciprocating Bulk Material Conveyors
- 41 12 13.36 Screw Bulk Material Conveyors
- 41 12 13.39 Stacking and Reclaim Bulk Material Conveyors
- 41 12 13.43 Trough Bulk Material Conveyors
- 41 12 13.46 Tube Bulk Material Conveyors
- 41 12 13.49 Vibratory Bulk Material Conveyors
- 41 12 13.53 Weigh-Belt Bulk Material Conveyors
- 41 12 16 Bucket Elevators
- 41 12 19 Pneumatic Conveyors
- 41 12 19.13 Dense Phase Pneumatic Conveyors
- 41 12 19.16 Dilute Phase Pneumatic Conveyors

### **41 13 00 Bulk Material Feeders**

- 41 13 13 Bin Activators/Live Bin Bottoms
- 41 13 23 Feeders
- 41 13 23.13 Airlock Bulk Material Feeders
- 41 13 23.16 Apron Bulk Material Feeders
- 41 13 23.19 Rotary-Valve Bulk Material Feeders
- 41 13 23.23 Screw Bulk Material Feeders
- 41 13 23.26 Vibratory Bulk Material Feeders
- 41 13 23.29 Volumetric Bulk Material Feeders

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| 41 13 23.33     | Weigh Bulk Material Feeders              |
| <b>41 14 00</b> | <b>Batching Equipment</b>                |
| 41 14 13        | Bag-Handling Batching Equipment          |
| 41 14 16        | Batch Cars/Transports                    |
| 41 14 19        | Batch Hoppers                            |
| 41 14 23        | Bulk Bag-Handling Batching Equipment     |
| 41 14 26        | Blenders                                 |
| 41 14 29        | Drum-Handling Batching Equipment         |
| 41 14 33        | Mixers                                   |
| 41 14 36        | Weigh Scales                             |
| <b>41 20 00</b> | <b>Piece Material Handling Equipment</b> |
| <b>41 21 00</b> | <b>Conveyors</b>                         |
| 41 21 13        | Automatic Guided Vehicle Systems         |
| 41 21 23        | Piece Material Conveyors                 |
| 41 21 23.13     | Belt Piece Material Conveyors            |
| 41 21 23.16     | Container Piece Material Conveyors       |
| 41 21 23.19     | Drag-Chain Piece Material Conveyors      |
| 41 21 23.23     | Hopper Piece Material Conveyors          |
| 41 21 23.26     | Monorail Piece Material Conveyors        |
| 41 21 23.29     | Power and Free Piece Material Conveyors  |
| 41 21 23.33     | Reciprocating Piece Material Conveyors   |
| 41 21 23.36     | Roller Piece Material Conveyors          |
| 41 21 23.39     | Vibratory Piece Material Conveyors       |
| 41 21 23.43     | Walking-Beam Piece Material Conveyors    |
| 41 21 23.46     | Weigh-Belt Piece Material Conveyors      |
| 41 21 23.53     | Postal Conveyors                         |
| 41 21 26        | Piece Material Diverter Gates            |
| 41 21 29        | Piece Material Gravity Slides            |
| 41 21 33        | Piece Material Transfer Cars             |
| 41 21 36        | Piece Material Turntables                |
| 41 21 39        | Piece Material Feeders                   |
| 41 21 39.13     | Piece Material Vibratory Feeders         |
| <b>41 22 00</b> | <b>Cranes and Hoists</b>                 |
| 41 22 13        | Cranes                                   |
| 41 22 13.13     | Bridge Cranes                            |
| 41 22 13.16     | Gantry Cranes                            |
| 41 22 13.19     | Jib Cranes                               |
| 41 22 13.23     | Mobile Cranes                            |
| 41 22 13.26     | Tower Cranes                             |
| 41 22 13.29     | Specialty Cranes                         |
| 41 22 23        | Hoists                                   |
| 41 22 23.13     | Fixed Hoists                             |
| 41 22 23.16     | Portable Hoists                          |
| 41 22 23.19     | Monorail Hoists                          |
| 41 22 23.23     | Specialty Hoists                         |
| 41 22 33        | Derricks                                 |
| <b>41 23 00</b> | <b>Lifting Devices</b>                   |
| 41 23 13        | Clamps                                   |
| 41 23 16        | Grabs                                    |
| 41 23 19        | Hooks                                    |
| 41 23 23        | Lifts                                    |

41 23 26 Slings  
 41 23 29 Spreader Bars/Beams  
 41 23 33 Tongs

## **41 24 00 Specialty Material Handling Equipment**

41 24 13 Aeration Devices  
 41 24 16 Bin Vibrators  
 41 24 19 Dehydrators  
 41 24 23 Hydrators  
 41 24 26 Hydraulic Power Systems  
 41 24 29 Lubrication Systems  
 41 24 33 Magnetic Separators  
 41 24 36 Metal Detectors  
 41 24 39 Railcar Movers  
 41 24 43 Turnheads/Distributors  
 41 24 46 Sorting Machines  
 41 24 46.13 Postal Sorting Machines

## **41 30 00 Manufacturing Equipment**

### **41 31 00 Manufacturing Lines and Equipment**

41 31 13 Manufacturing Lines  
 41 31 13.13 Assembly Lines  
 41 31 13.16 Casting Lines  
 41 31 13.19 Coating Lines  
 41 31 13.23 Converting Lines  
 41 31 13.26 Disassembly Lines  
 41 31 13.29 Extrusion Lines  
 41 31 13.33 Machining Lines  
 41 31 13.36 Molding Lines  
 41 31 13.39 Finishing/Painting Lines  
 41 31 13.43 Painting Lines  
 41 31 13.46 Pickling Lines  
 41 31 13.49 Plating Lines  
 41 31 13.53 Polishing Lines  
 41 31 13.56 Press Lines  
 41 31 13.59 Rolling/Calendaring Lines  
 41 31 13.63 Web Processing Lines  
 41 31 16 Pick and Place Systems  
 41 31 19 Manufacturing-Line Robots  
 41 31 23 Specialty Assembly Machines

### **41 32 00 Forming Equipment**

41 32 13 Bending Equipment  
 41 32 16 Blow-Molding Equipment  
 41 32 19 Brake-Forming Equipment  
 41 32 23 Cold-Forming Equipment  
 41 32 26 Die-Casting Equipment  
 41 32 29 Drawing Equipment  
 41 32 33 Electroforming Equipment  
 41 32 36 Forging Equipment  
 41 32 39 Extruding Equipment  
 41 32 43 Metal-Spinning Equipment  
 41 32 46 Piercing Equipment  
 41 32 49 Powder Metal-Forming Equipment

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| 41 32 53        | Pressing Equipment                    |
| 41 32 56        | Roll-Forming Equipment                |
| 41 32 59        | Shearing Equipment                    |
| 41 32 63        | Spinning Equipment                    |
| 41 32 66        | Stretching/Leveling Equipment         |
| 41 32 69        | Swaging Equipment                     |
| <b>41 33 00</b> | <b>Machining Equipment</b>            |
| 41 33 13        | Automatic Screw Machining Equipment   |
| 41 33 16        | Boring Equipment                      |
| 41 33 19        | Broaching Equipment                   |
| 41 33 23        | Drilling Equipment                    |
| 41 33 26        | Electro-Discharge Machining Equipment |
| 41 33 29        | Grinding Equipment                    |
| 41 33 33        | Hobbing Equipment                     |
| 41 33 36        | Lapping Equipment                     |
| 41 33 39        | Lathe Equipment                       |
| 41 33 43        | Leveling Equipment                    |
| 41 33 46        | Machining Center Equipment            |
| 41 33 53        | Milling Equipment                     |
| 41 33 53.13     | Horizontal Milling Equipment          |
| 41 33 53.16     | Vertical Milling Equipment            |
| 41 33 60        | Multi-Axis Machine Equipment          |
| 41 33 63        | Planing Equipment                     |
| 41 33 66        | Reaming Equipment                     |
| 41 33 69        | Routing Equipment                     |
| 41 33 73        | Sawing Equipment                      |
| 41 33 76        | Shaping Equipment                     |
| 41 33 79        | Threading Equipment                   |
| <b>41 34 00</b> | <b>Finishing Equipment</b>            |
| 41 34 13        | Anodizing Equipment                   |
| 41 34 16        | Barrel Tumbling Equipment             |
| 41 34 23        | Coating Equipment                     |
| 41 34 23.13     | Diffusion Coating Equipment           |
| 41 34 23.16     | Dipping Coating Equipment             |
| 41 34 23.19     | Film Coating Equipment                |
| 41 34 23.23     | Phosphatizing Coating Equipment       |
| 41 34 23.26     | Plasma Coating Equipment              |
| 41 34 23.29     | Hardface Welding Coating Equipment    |
| 41 34 23.33     | Spray Painting Booth                  |
| 41 34 26        | Deburring Equipment                   |
| 41 34 36        | Electroplating Equipment              |
| 41 34 46        | Grinding Equipment                    |
| 41 34 49        | Honing Equipment                      |
| 41 34 53        | Lapping Equipment                     |
| 41 34 56        | Shot Peening Equipment                |
| 41 34 59        | Superfinishing/Polishing Equipment    |
| <b>41 35 00</b> | <b>Dies and Molds</b>                 |
| 41 35 13        | Dies                                  |
| 41 35 13.13     | Drawing Dies                          |
| 41 35 13.16     | Extrusion Dies                        |
| 41 35 13.19     | Press Dies                            |

41 35 13.23 Rotary Dies  
 41 35 13.26 Rule Dies  
 41 35 33 Molds

## **41 36 00 Assembly and Testing Equipment**

41 36 13 Applicators  
 41 36 13.13 Adhesive Applicators  
 41 36 13.16 Lubricant Applicators  
 41 36 13.19 Sealer Applicators  
 41 36 16 Fixtures and Jigs  
 41 36 19 Joining Equipment  
 41 36 19.13 Adhesive Joining Equipment  
 41 36 19.16 Arc-Welding Equipment  
 41 36 19.19 Brazing Equipment  
 41 36 19.23 Resistance-Welding Equipment  
 41 36 19.26 Riveting Equipment  
 41 36 19.29 Sintering Equipment  
 41 36 19.33 Soldering Equipment  
 41 36 23 Cutting Equipment  
 41 36 23.13 Cutting Torches  
 41 36 23.16 High-Pressure Water Cutting Equipment  
 41 36 23.19 Laser Cutting Equipment  
 41 36 23.23 Plasma Cutting Equipment  
 41 36 26 Process Tools  
 41 36 26.13 Air Process Tools  
 41 36 26.16 Electric Process Tools  
 41 36 26.19 Hydraulic Process Tools  
 41 36 26.23 Manual Process Tools  
 41 36 29 Manufacturing Measurement and Testing Equipment  
 41 36 29.13 Gages, Rules, and Blocks  
 41 36 29.16 Penetrant Measurement and Testing Equipment  
 41 36 29.19 Laser Measurement and Testing Equipment  
 41 36 29.23 Magnaflux Measurement and Testing Equipment  
 41 36 29.26 Optical Comparators  
 41 36 29.29 Profilometers  
 41 36 29.33 Radiograph Measurement and Testing Equipment  
 41 36 29.36 Surface Tables  
 41 36 29.39 Ultrasonic Measurement and Testing Equipment  
 41 36 29.43 Test Weigh Scales

## **41 40 00 Container Processing and Packaging**

### **41 41 00 Container Filling and Sealing**

41 41 13 Bulk Container Fillers/Packers  
 41 41 16 Container Cappers  
 41 41 19 Container Fillers  
 41 41 19.13 Bag Fillers  
 41 41 19.16 Box Fillers  
 41 41 19.19 Bottle Fillers  
 41 41 23 Container Sealers

### **41 42 00 Container Packing Equipment**

41 42 13 Box Packing Equipment  
 41 42 13.13 Box Makers  
 41 42 13.16 Box Packers  
 41 42 16 Bulk Material Loaders  
 41 42 16.13 Container Bulk Material Loaders



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|-----------------|-----------------------------------------------------------------------------------------|
| 41 42 16.23     | Truck Bulk Material Loaders                                                             |
| 41 42 16.26     | Railcar Bulk Material Loaders                                                           |
| 41 42 16.29     | Ship Bulk Material Loaders                                                              |
| 41 42 16.33     | Barge Bulk Material Loaders                                                             |
| 41 42 19        | Carton Packers                                                                          |
| 41 42 23        | Carton Sealers                                                                          |
| 41 42 26        | Carton Shrink Wrappers                                                                  |
| 41 42 29        | Carton Stackers                                                                         |
| <b>41 43 00</b> | <b>Shipping Packaging</b>                                                               |
| 41 43 13        | Banding/Strapping Equipment                                                             |
| 41 43 16        | Barcode Equipment                                                                       |
| 41 43 16.13     | Barcode Readers                                                                         |
| 41 43 16.16     | Barcode Printers                                                                        |
| 41 43 19        | Labeling Equipment                                                                      |
| 41 43 23        | Pallet Stacking/Wrapping Equipment                                                      |
| <b>41 50 00</b> | <b>Material Storage</b>                                                                 |
| <b>41 51 00</b> | <b>Automatic Material Storage</b>                                                       |
| 41 51 13        | Automatic Storage/Automatic Retrieval Systems                                           |
| <b>41 52 00</b> | <b>Bulk Material Storage</b>                                                            |
| 41 52 16.13     | Concrete Flat-Bottom Silos                                                              |
| 41 52 16.16     | Concrete Masonry Flat-Bottom Silos                                                      |
| 41 52 16.23     | Concrete Cone-Bottom Silos                                                              |
| 41 52 16.26     | Concrete Masonry Cone-Bottom Silos                                                      |
| 41 52 16.29     | Steel Cone-Bottom Silos                                                                 |
| 41 52 19        | Bulk Materials Storage Tanks                                                            |
| 41 52 19.13     | Stationary Bulk Materials Storage Tanks                                                 |
| 41 52 19.33     | Mobile Bulk Materials Storage Tanks                                                     |
| 41 52 41        | Pneumatic, Block-Distributed Materials Fluidizing System for Flat-Bottom Bins and Silos |
| 41 52 43        | Aerated Trough Materials Fluidizing System for Flat-Bottom Bins and Silos               |
| 41 52 46        | Pad-Mounted Aerated Disc Materials Fluidizing System for Cone-Bottom Bins and Silos     |
| <b>41 53 00</b> | <b>Storage Equipment and Systems</b>                                                    |
| 41 53 13        | Storage Cabinets                                                                        |
| 41 53 16        | Container Storage Systems                                                               |
| 41 53 19        | Flat Files                                                                              |
| 41 53 23        | Storage Racks                                                                           |
| 41 53 23.13     | Mobile Storage Racks                                                                    |
| 41 53 26        | Mezzanine Storage Systems                                                               |
| <b>41 60 00</b> | <b>Mobile Plant Equipment</b>                                                           |
| <b>41 61 00</b> | <b>Mobile Earth Moving Equipment</b>                                                    |
| 41 61 13        | Backhoes                                                                                |
| 41 61 16        | Bulldozers                                                                              |
| 41 61 19        | Compactors                                                                              |
| 41 61 23        | Excavators                                                                              |
| 41 61 26        | Graders                                                                                 |
| 41 61 29        | Payloaders                                                                              |
| 41 61 33        | Trenchers                                                                               |
| <b>41 62 00</b> | <b>Trucks</b>                                                                           |

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|-----------------|------------------------------------------------------------------------------------|
| 41 62 13        | Cement Mixer Trucks                                                                |
| 41 62 16        | Dump Trucks                                                                        |
| 41 62 19        | Flatbed Trucks                                                                     |
| 41 62 23        | Forklift Trucks                                                                    |
| 41 62 26        | Pickup Trucks                                                                      |
| 41 62 29        | Tank Trucks                                                                        |
| <b>41 63 00</b> | <b>General Vehicles</b>                                                            |
| 41 63 13        | Bicycles                                                                           |
| 41 63 16        | Carts                                                                              |
| 41 63 19        | Maintenance Vehicles                                                               |
| 41 63 23        | Utility Vehicles                                                                   |
| 41 63 26        | Vans                                                                               |
| 41 63 29        | Wagons                                                                             |
| <b>41 64 00</b> | <b>Rail Vehicles</b>                                                               |
| 41 64 13        | Locomotives                                                                        |
| 41 64 13.13     | Diesel Locomotives                                                                 |
| 41 64 13.23     | Electric Locomotives                                                               |
| 41 64 16        | Mobile Railcar Movers                                                              |
| <b>41 65 00</b> | <b>Mobile Support Equipment</b>                                                    |
| 41 65 13        | Mobile Air Compressors                                                             |
| 41 65 16        | Mobile Generators                                                                  |
| 41 65 19        | Mobile Welders                                                                     |
| <b>41 66 00</b> | <b>Miscellaneous Mobile Equipment</b>                                              |
| 41 66 13        | Mobile Boring and Drilling Rigs                                                    |
| 41 66 16        | Mobile Lifts and Cherrypickers                                                     |
| 41 66 19        | Mobile Paving Equipment                                                            |
| 41 66 23        | Mobile Sweepers/Vacuums                                                            |
| <b>41 67 00</b> | <b>Plant Maintenance Equipment</b>                                                 |
| 41 67 13        | Plant Lube Oil System                                                              |
| 41 67 16        | Plant Fall Protection Equipment                                                    |
| 41 67 19        | Plant Safety Equipment                                                             |
| 41 67 23        | Plant Maintenance Tools                                                            |
| 41 67 26        | Plant Maintenance Washing Equipment                                                |
| <b>42 00 00</b> | <b>Process Heating, Cooling, and Drying Equipment</b>                              |
| <b>42 01 00</b> | <b>Operation and Maintenance of Process Heating, Cooling, and Drying Equipment</b> |
| 42 01 10        | Operation and Maintenance of Process Heating Equipment                             |
| 42 01 20        | Operation and Maintenance of Process Cooling Equipment                             |
| 42 01 30        | Operation and Maintenance of Process Drying Equipment                              |
| <b>42 05 00</b> | <b>Common Work Results for Process Heating, Cooling, and Drying Equipment</b>      |
| 42 05 05        | Selective Demolition for Process Heating, Cooling, and Drying Equipment            |
| <b>42 06 00</b> | <b>Schedules for Process Heating, Cooling, and Drying Equipment</b>                |
| 42 06 10        | Schedules for Process Heating Equipment                                            |

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| 42 06 20        | Schedules for Process Cooling Equipment                                |
| 42 06 30        | Schedules for Process Drying Equipment                                 |
| <b>42 08 00</b> | <b>Commissioning of Process Heating, Cooling, and Drying Equipment</b> |
| 42 08 10        | Commissioning of Heating Equipment                                     |
| 42 08 20        | Commissioning of Cooling Equipment                                     |
| 42 08 30        | Commissioning of Drying Equipment                                      |
| <b>42 10 00</b> | <b>Process Heating Equipment</b>                                       |
| <b>42 11 00</b> | <b>Process Boilers</b>                                                 |
| 42 11 13        | Low-Pressure Process Boilers                                           |
| 42 11 16        | Intermediate-Pressure Process Boilers                                  |
| 42 11 19        | High-Pressure Process Boilers                                          |
| 42 11 23        | Specialty Process Boilers                                              |
| <b>42 12 00</b> | <b>Process Heaters</b>                                                 |
| 42 12 13        | Electric Process Heaters                                               |
| 42 12 16        | Fuel-Fired Process Heaters                                             |
| 42 12 19        | Thermoelectric Process Heaters                                         |
| 42 12 23        | Solar Process Heaters                                                  |
| 42 12 26        | Specialty Process Heaters                                              |
| <b>42 13 00</b> | <b>Industrial Heat Exchangers and Recuperators</b>                     |
| 42 13 13        | Industrial Gas-to-Gas Heat Exchangers                                  |
| 42 13 16        | Industrial Liquid-to-Gas/Gas-to-Liquid Heat Exchangers                 |
| 42 13 19        | Industrial Liquid-to-Liquid Heat Exchangers                            |
| 42 13 23        | Industrial Gas Radiation Heat Exchangers                               |
| 42 13 26        | Industrial Solar Radiation Heat Exchangers                             |
| <b>42 14 00</b> | <b>Industrial Furnaces</b>                                             |
| 42 14 13        | Annealing Furnaces                                                     |
| 42 14 16        | Atmosphere Generators                                                  |
| 42 14 19        | Industrial Baking Furnaces                                             |
| 42 14 23        | Industrial Brazing Furnaces                                            |
| 42 14 26        | Industrial Calcining Furnaces                                          |
| 42 14 29        | Industrial Heat-Treating Furnaces                                      |
| 42 14 33        | Industrial Melting Furnaces                                            |
| 42 14 33.13     | Ceramics and Glass Melting Furnaces                                    |
| 42 14 33.16     | Ferrous Melting Furnaces                                               |
| 42 14 33.19     | Non-Ferrous Melting Furnaces                                           |
| 42 14 36        | Primary Refining Furnaces                                              |
| 42 14 43        | Reactor Furnaces                                                       |
| 42 14 46        | Industrial Reheat Furnaces                                             |
| 42 14 53        | Industrial Sintering Furnaces                                          |
| 42 14 56        | Industrial Vacuum Furnaces                                             |
| <b>42 15 00</b> | <b>Industrial Ovens</b>                                                |
| 42 15 13        | Industrial Drying Ovens                                                |
| 42 15 16        | Industrial Curing Ovens                                                |
| 42 15 19        | Industrial Specialty Ovens                                             |
| <b>42 20 00</b> | <b>Process Cooling Equipment</b>                                       |
| <b>42 21 00</b> | <b>Process Cooling Towers</b>                                          |
| 42 21 13        | Open-Circuit Process Cooling Towers                                    |

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| 42 21 16        | Closed-Circuit Process Cooling Towers                                                                    |
| <b>42 22 00</b> | <b>Process Chillers and Coolers</b>                                                                      |
| 42 22 13        | Centrifugal Process Chillers and Coolers                                                                 |
| 42 22 16        | Reciprocating Process Chillers and Coolers                                                               |
| 42 22 19        | Refrigerant Process Chillers and Coolers                                                                 |
| 42 22 23        | Rotary Process Chillers and Coolers                                                                      |
| 42 22 26        | Thermoelectric Process Chillers and Coolers                                                              |
| <b>42 23 00</b> | <b>Process Condensers and Evaporators</b>                                                                |
| 42 23 13        | Process Condensers                                                                                       |
| 42 23 16        | Process Cooling Evaporators                                                                              |
| 42 23 19        | Process Humidifiers                                                                                      |
| <b>42 30 00</b> | <b>Process Drying Equipment</b>                                                                          |
| <b>42 31 00</b> | <b>Gas Dryers and Dehumidifiers</b>                                                                      |
| 42 31 13        | Drying Evaporators                                                                                       |
| 42 31 16        | Desiccant Equipment                                                                                      |
| 42 31 19        | Regenerative Dryers                                                                                      |
| 42 31 23        | Refrigerant Dryers                                                                                       |
| <b>42 32 00</b> | <b>Material Dryers</b>                                                                                   |
| 42 32 13        | Centrifugal Material Dryers                                                                              |
| 42 32 16        | Conveyor Material Dryers                                                                                 |
| 42 32 19        | Flash Material Dryers                                                                                    |
| 42 32 23        | Fluid-Bed Material Dryers                                                                                |
| 42 32 26        | Material Roasters                                                                                        |
| 42 32 29        | Rotary-Kiln Material Dryers                                                                              |
| 42 32 33        | Spray Material Dryers                                                                                    |
| 42 32 36        | Tower Material Dryers                                                                                    |
| 42 32 39        | Vacuum Material Dryers                                                                                   |
| 42 32 43        | Specialty Material Dryers                                                                                |
| <b>43 00 00</b> | <b>Process Gas and Liquid Handling, Purification, and Storage Equipment</b>                              |
| <b>43 01 00</b> | <b>Operation and Maintenance of Process Gas and Liquid Handling, Purification, and Storage Equipment</b> |
| 43 01 10        | Operation and Maintenance of Gas Handling Equipment                                                      |
| 43 01 10.13     | Gas Blowers Maintenance and Rehabilitation                                                               |
| 43 01 10.16     | Gas Compressors Maintenance and Rehabilitation                                                           |
| 43 01 20        | Operation and Maintenance of Liquid Handling Equipment                                                   |
| 43 01 20.13     | Liquid Pumps Maintenance and Rehabilitation                                                              |
| 43 01 20.16     | Liquid Process Equipment Maintenance and Rehabilitation                                                  |
| 43 01 30        | Operation and Maintenance of Gas and Liquid Hi-Purification Equipment                                    |
| 43 01 40        | Operation and Maintenance of Gas and Liquid Storage                                                      |
| 43 01 40.13     | Non-pressurized Tanks Cleaning, Maintenance, and Rehabilitation                                          |
| 43 01 40.16     | Pressurized Tanks Cleaning, Maintenance, and Rehabilitation                                              |
| <b>43 05 00</b> | <b>Common Work Results for Process Gas and Liquid Handling, Purification, and Storage Equipment</b>      |
| 43 05 05        | Selective Demolition for Process Gas and Liquid Handling, Purification, and Storage Equipment.           |
| 43 05 10        | Common Work Results for Gas Handling Equipment                                                           |

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| 43 05 20        | Common Work Results for Liquid Handling Equipment                                            |
| 43 05 30        | Common Work Results for Gas and Liquid Hi-Purification Equipment                             |
| 43 05 40        | Common Work Results for Gas and Liquid Storage                                               |
| <b>43 06 00</b> | <b>Schedules for Process Gas and Liquid Handling, Purification, and Storage Equipment</b>    |
| 43 06 10        | Schedules for Gas Handling Equipment                                                         |
| 43 06 20        | Schedules for Liquid Handling Equipment                                                      |
| 43 06 30        | Schedules for Gas and Liquid Hi-Purification Equipment                                       |
| 43 06 40        | Schedules for Gas and Liquid Storage                                                         |
| <b>43 08 00</b> | <b>Commissioning of Process Gas and Liquid Handling, Purification, and Storage Equipment</b> |
| 43 08 10        | Commissioning of Gas Handling Equipment                                                      |
| 43 08 20        | Commissioning of Liquid Handling Equipment                                                   |
| 43 08 30        | Commissioning of Gas and Liquid Purification Equipment                                       |
| 43 08 40        | Commissioning of Gas and Liquid Storage                                                      |
| <b>43 10 00</b> | <b>Gas Handling Equipment</b>                                                                |
| <b>43 11 00</b> | <b>Gas Fans, Blowers, Pumps and Boosters</b>                                                 |
| 43 11 11        | Direct Drive Single Stage Centrifugal Blowers                                                |
| 43 11 12        | Integrally Geared Single Stage Centrifugal Blowers                                           |
| 43 11 13        | Separately Geared Single Stage Centrifugal Blowers                                           |
| 43 11 14        | Direct Drive Integral Shaft Single Stage Centrifugal Blowers                                 |
| 43 11 17        | Horizontally Split Multistage Centrifugal Blowers                                            |
| 43 11 18        | Vertically Split Multistage Centrifugal Blowers                                              |
| 43 11 19        | Centrifugal Fans                                                                             |
| 43 11 23        | Axial Blowers                                                                                |
| 43 11 26        | Axial Fans                                                                                   |
| 43 11 31        | Rotary Helical Screw Blowers                                                                 |
| 43 11 33        | Rotary Lobe Blowers                                                                          |
| 43 11 34        | Regenerative Rotary Blowers                                                                  |
| 43 11 36        | Rotary Vane Blowers                                                                          |
| 43 11 41        | Gas-handling Venturi Jet Pumps                                                               |
| 43 11 43        | Gas-handling Vacuum Pumps                                                                    |
| 43 11 46        | Gas Boosters                                                                                 |
| <b>43 12 00</b> | <b>Gas Compressors</b>                                                                       |
| 43 12 11        | Centrifugal Compressors                                                                      |
| 43 12 13        | Diagonal or Mixed-flow Compressors                                                           |
| 43 12 16        | Axial-flow Compressors                                                                       |
| 43 12 33        | Single-acting Reciprocating Compressors                                                      |
| 43 12 34        | Double-acting Reciprocating Compressors                                                      |
| 43 12 37        | Diaphragm Reciprocating Compressors                                                          |
| 43 12 51        | Rotary Screw Compressors                                                                     |
| 43 12 53        | Rotary Vane Compressors                                                                      |
| 43 12 56        | Rotary Liquid-ring Compressors                                                               |
| 43 12 57        | Rotary Scroll Compressors                                                                    |
| <b>43 13 00</b> | <b>Gas Process Equipment</b>                                                                 |
| 43 13 13        | Gas Blenders                                                                                 |
| 43 13 19        | Gas Mixers                                                                                   |
| 43 13 23        | Gas Pressure Regulators                                                                      |

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| 43 13 31        | Gas Separation Equipment                                             |
| 43 13 33        | Gas Dehydration Equipment                                            |
| 43 13 36        | Combined Gas Separation and Dehydration Equipment                    |
| 43 13 39        | Gas Recovery and Condensing Equipment                                |
| 43 13 43        | Waste Gas Burner System                                              |
| 43 13 46        | Gas Control and Safety Equipment                                     |
| <b>43 15 00</b> | <b>Process Air and Gas Filters</b>                                   |
| 43 15 13        | Blower Intake and Turbine Air Filters                                |
| 43 15 13.13     | Static Prefilters                                                    |
| 43 15 13.16     | Static Final Filters                                                 |
| 43 15 13.19     | Static HEPA Filters                                                  |
| 43 15 13.23     | Pulse Filters                                                        |
| 43 15 33        | Grease Filters                                                       |
| 43 15 43        | Mist Eliminators                                                     |
| 43 15 63        | High-temperature Air Filters                                         |
| 43 15 73        | Multiple-application Air Filters                                     |
| 43 15 73.11     | Air Filter Media                                                     |
| 43 15 73.12     | Permanent Washable Filters                                           |
| 43 15 73.13     | Poly-ring Air Filters                                                |
| 43 15 73.15     | Rigid Cell Filters                                                   |
| 43 15 73.17     | Automatic Roll-type Air Filters                                      |
| 43 15 76        | Chemical Media for Air and Gas Filters                               |
| <b>43 20 00</b> | <b>Liquid Handling Equipment</b>                                     |
| <b>43 22 00</b> | <b>Liquid Process Equipment</b>                                      |
| 43 22 13        | Liquid Aeration Devices                                              |
| 43 22 16        | Liquid Agitators                                                     |
| 43 22 19        | Liquid Blenders                                                      |
| 43 22 23        | Liquid Centrifuges                                                   |
| 43 22 26        | Liquid Deaerators                                                    |
| 43 22 29        | Drum Handling Liquid Process Equipment                               |
| 43 22 33        | Liquid Emulsifiers                                                   |
| 43 22 36        | Liquid Evaporators                                                   |
| 43 22 39        | Liquid Feeders                                                       |
| 43 22 56        | Liquid Process Mixers                                                |
| 43 22 59        | Liquid Process Pressure Regulators                                   |
| 43 22 63        | Liquid Separation Towers                                             |
| 43 22 66        | Liquid Weigh Systems                                                 |
| 43 22 69        | Liquid Grease Receiving and Dewatering Systems                       |
| 43 22 73        | Liquid Fillers                                                       |
| 43 22 76        | Liquid Screeners                                                     |
| 43 22 79        | Liquid Clarifiers                                                    |
| 43 22 83        | Liquid Classifiers                                                   |
| 43 22 86        | Liquid Homogenizers                                                  |
| 43 22 89        | Liquid Presses                                                       |
| 43 22 96        | Liquid Versators                                                     |
| 43 22 99        | Liquid Votators                                                      |
| <b>43 23 00</b> | <b>Dry Location Liquid Pumps</b>                                     |
| 43 23 13        | Overhung Horizontal Centrifugal Pumps                                |
| 43 23 13.13     | Overhung Flexibly-coupled Horizontal Axial Flow Centrifugal Pumps    |
| 43 23 13.14     | Overhung Flexibly-coupled Horizontal Frame-mounted Centrifugal Pumps |

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| 43 23 13.17 | Overhung Flexibly-coupled Horizontal Foot-mounted Centrifugal Pumps                        |
| 43 23 13.19 | Overhung Flexibly-coupled Horizontal Foot-mounted Self-priming Centrifugal Pumps           |
| 43 23 13.21 | Overhung Flexibly-coupled Horizontal Centerline-mounted Centrifugal Pumps                  |
| 43 23 13.23 | Overhung Flexibly-coupled, Magnetic Drive, Sealless Horizontal Centrifugal Pumps           |
| 43 23 13.24 | Overhung Close-coupled High-speed Integral Gear Centrifugal Pumps                          |
| 43 23 13.27 | Overhung Close-coupled Horizontal Centrifugal Pumps                                        |
| 43 23 13.29 | Overhung Close-coupled Sealless with Canned Motor Horizontal Centrifugal Pumps             |
| 43 23 21    | Between-Bearings Impeller Centrifugal Pumps                                                |
| 43 23 21.13 | Between-bearings Impeller, One- and Two-stage Axially-split Centrifugal Pumps              |
| 43 23 21.14 | Between-bearings Impeller, One- and Two-stage, Radially-split Centrifugal Pumps            |
| 43 23 21.17 | Between-bearings Impeller, Multiple-stage, Axially-split Centrifugal Pumps                 |
| 43 23 21.19 | Between-bearings Impeller, Multiple-stage, Radially-split Centrifugal Pumps                |
| 43 23 21.21 | Between-bearings Impeller, Multiple-stage, Radially-split, Single Casing Centrifugal Pumps |
| 43 23 21.23 | Between-bearings Impeller, Multiple-stage, Radially-split, Double Casing Centrifugal Pumps |
| 43 23 31    | Vertical Centrifugal Pumps                                                                 |
| 43 23 31.13 | Overhung Flexibly-coupled Vertical Centrifugal Pumps                                       |
| 43 23 31.14 | Overhung Flexibly-coupled Vertical Inline Centrifugal Pumps                                |
| 43 23 31.17 | Overhung Flexibly-coupled Vertical End-suction Centrifugal Pumps                           |
| 43 23 31.19 | Overhung Flexibly-coupled, Magnetic Drive, Sealless Vertical Centrifugal Pumps             |
| 43 23 31.21 | Overhung Close-coupled Vertical Inline Centrifugal Pumps                                   |
| 43 23 31.23 | Overhung Close-coupled Vertical End Suction Centrifugal Pumps                              |
| 43 23 31.24 | Overhung Close-coupled Sealless with Canned Motor Vertical Centrifugal Pumps               |
| 43 23 31.27 | Overhung Rigidly-coupled Vertical Inline Centrifugal Pumps                                 |
| 43 23 31.29 | Overhung Close-coupled Vertical Centrifugal Pumps                                          |
| 43 23 51    | Vane Pumps                                                                                 |
| 43 23 53    | Piston Pumps                                                                               |
| 43 23 53.13 | Piston Axial Rotary Pumps                                                                  |
| 43 23 53.23 | Piston Radial Rotary Pumps                                                                 |
| 43 23 53.33 | Circumferential Single-Piston Rotary Pumps                                                 |
| 43 23 53.36 | Circumferential Multiple-Piston Rotary Pumps                                               |
| 43 23 54    | Flexible Member Pumps                                                                      |
| 43 23 54.13 | Flexible Tube Rotary Pumps                                                                 |
| 43 23 54.23 | Flexible Vane Rotary Pumps                                                                 |
| 43 23 54.33 | Flexible Liner Rotary Pumps                                                                |
| 43 23 56    | Gear Pumps                                                                                 |
| 43 23 56.13 | External Gear Rotary Pumps                                                                 |
| 43 23 56.23 | Internal Gear Rotary Pumps                                                                 |
| 43 23 57    | Progressing Cavity Pumps                                                                   |
| 43 23 58    | Lobe Pumps                                                                                 |
| 43 23 58.13 | Single-Lobe Rotary Pumps                                                                   |
| 43 23 58.23 | Multiple-Lobe Rotary Pumps                                                                 |
| 43 23 59    | Screw Pumps                                                                                |
| 43 23 59.13 | Single-Screw Rotary Pumps                                                                  |
| 43 23 59.23 | Multiple-Screw Rotary Pumps                                                                |
| 43 23 71    | Air-Operated Diaphragm Reciprocating Pumps                                                 |
| 43 23 71.13 | Air-Operated Diaphragm Simplex Single-Acting Reciprocating Pumps                           |
| 43 23 71.23 | Air-Operated Diaphragm Simplex Double-Acting Reciprocating Pumps                           |
| 43 23 71.33 | Air-Operated Diaphragm Duplex Single-acting Reciprocating Pumps                            |
| 43 23 71.43 | Air-Operated Diaphragm Duplex Double-acting Reciprocating Pumps                            |
| 43 23 72    | Air-Operated Bellows Reciprocating Pumps                                                   |

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| 43 23 72.13 | Air-Operated Bellows Simplex Single-Acting Reciprocating Pumps                          |
| 43 23 72.23 | Air-Operated Bellows Simplex Double-Acting Reciprocating Pumps                          |
| 43 23 72.33 | Air-Operated Bellows Duplex Single-Acting Reciprocating Pumps                           |
| 43 23 72.43 | Air-Operated Bellows Duplex Double-Acting Reciprocating Pumps                           |
| 43 23 73    | Air-Operated Piston Reciprocating Pumps                                                 |
| 43 23 73.13 | Air-Operated Piston Simplex Single-Acting Reciprocating Pumps                           |
| 43 23 73.23 | Air-Operated Piston Simplex Double-Acting Reciprocating Pumps                           |
| 43 23 73.33 | Air-Operated Piston Duplex Single-Acting Reciprocating Pumps                            |
| 43 23 73.43 | Air-Operated Piston Duplex Double-Acting Reciprocating Pumps                            |
| 43 23 74    | Steam Horizontal Reciprocating Pumps                                                    |
| 43 23 74.13 | Steam Horizontal Double-Acting Piston Simplex Reciprocating Pumps                       |
| 43 23 74.23 | Steam Horizontal Double-Acting Piston Duplex Reciprocating Pumps                        |
| 43 23 74.33 | Steam Horizontal Double-Acting Plunger Simplex Reciprocating Pumps                      |
| 43 23 74.43 | Steam Horizontal Double-Acting Plunger Duplex Reciprocating Pumps                       |
| 43 23 75    | Steam Vertical Reciprocating Pumps                                                      |
| 43 23 75.13 | Steam Vertical Double-Acting Piston Simplex Reciprocating Pumps                         |
| 43 23 75.23 | Steam Vertical Double-Acting Piston Duplex Reciprocating Pumps                          |
| 43 23 75.33 | Steam Vertical Double-Acting Plunger Simplex Reciprocating Pumps                        |
| 43 23 75.43 | Steam Vertical Double-acting Plunger Duplex Reciprocating Pumps                         |
| 43 23 76    | Power Horizontal Reciprocating Pumps                                                    |
| 43 23 76.11 | Power Horizontal Single-Acting Piston Simplex Reciprocating Pumps                       |
| 43 23 76.12 | Power Horizontal Single-Acting Piston Duplex Reciprocating Pumps                        |
| 43 23 76.13 | Power Horizontal Single-Acting Piston Multiplex Reciprocating Pumps                     |
| 43 23 76.21 | Power Horizontal Single-Acting Plunger Simplex Reciprocating Pumps                      |
| 43 23 76.22 | Power Horizontal Single-Acting Plunger Duplex Reciprocating Pumps                       |
| 43 23 76.23 | Power Horizontal Single-Acting Plunger Multiplex Reciprocating Pumps                    |
| 43 23 76.31 | Power Horizontal Double-Acting Piston Simplex Reciprocating Pumps                       |
| 43 23 76.32 | Power Horizontal Double-Acting Piston Duplex Reciprocating Pumps                        |
| 43 23 76.33 | Power Horizontal Double-Acting Piston Multiplex Reciprocating Pumps                     |
| 43 23 76.41 | Power Horizontal Double-Acting Plunger Simplex Reciprocating Pumps                      |
| 43 23 76.42 | Power Horizontal Double-Acting Plunger Duplex Reciprocating Pumps                       |
| 43 23 76.43 | Power Horizontal Double-Acting Plunger Multiplex Reciprocating Pumps                    |
| 43 23 77    | Power Vertical Reciprocating Pumps                                                      |
| 43 23 77.11 | Power Vertical Single-Acting Piston Simplex Reciprocating Pumps                         |
| 43 23 77.12 | Power Vertical Single-Acting Piston Duplex Reciprocating Pumps                          |
| 43 23 77.13 | Power Vertical Single-Acting Piston Multiplex Reciprocating Pumps                       |
| 43 23 77.21 | Power Vertical Single-Acting Plunger Simplex Reciprocating Pumps                        |
| 43 23 77.22 | Power Vertical Single-Acting Plunger Duplex Reciprocating Pumps                         |
| 43 23 77.23 | Power Vertical Single-Acting Plunger Multiplex Reciprocating Pumps                      |
| 43 23 77.31 | Power Vertical Double-Acting Piston Simplex Reciprocating Pumps                         |
| 43 23 77.32 | Power Vertical Double-Acting Piston Duplex Reciprocating Pumps                          |
| 43 23 77.33 | Power Vertical Double-Acting Piston Multiplex Reciprocating Pumps                       |
| 43 23 77.41 | Power Vertical Double-Acting Plunger Simplex Reciprocating Pumps                        |
| 43 23 77.42 | Power Vertical Double-Acting Plunger Duplex Reciprocating Pumps                         |
| 43 23 77.43 | Power Vertical Double-Acting Plunger Multiplex Reciprocating Pumps                      |
| 43 23 78    | Controlled Volume Horizontal Reciprocating Pumps                                        |
| 43 23 78.11 | Controlled Volume Horizontal Packed Plunger Simplex Reciprocating Pumps                 |
| 43 23 78.12 | Controlled Volume Horizontal Packed Plunger Duplex Reciprocating Pumps                  |
| 43 23 78.13 | Controlled Volume Horizontal Packed Plunger Multiplex Reciprocating Pumps               |
| 43 23 78.21 | Controlled Volume Horizontal Packed Piston Simplex Reciprocating Pumps                  |
| 43 23 78.22 | Controlled Volume Horizontal Packed Piston Duplex Reciprocating Pumps                   |
| 43 23 78.23 | Controlled Volume Horizontal Packed Piston Multiplex Reciprocating Pumps                |
| 43 23 78.31 | Controlled Volume Horizontal Mechanically-Coupled Diaphragm Simplex Reciprocating Pumps |



- 43 23 78.32 Controlled Volume Horizontal Mechanically-Coupled Diaphragm Duplex Reciprocating Pumps
- 43 23 78.33 Controlled Volume Horizontal Mechanically-Coupled Diaphragm Multiplex Reciprocating Pumps
- 43 23 78.34 Controlled Volume Horizontal Hydraulically-Coupled Diaphragm Simplex Reciprocating Pumps
- 43 23 78.35 Controlled Volume Horizontal Hydraulically-Coupled Diaphragm Duplex Reciprocating Pumps
- 43 23 78.36 Controlled Volume Horizontal Hydraulically-Coupled Diaphragm Multiplex Reciprocating Pumps
- 43 23 79 Controlled Volume Vertical Reciprocating Pumps
- 43 23 79.11 Controlled Volume Vertical Packed Plunger Simplex Reciprocating Pumps
- 43 23 79.12 Controlled Volume Vertical Packed Plunger Duplex Reciprocating Pumps
- 43 23 79.13 Controlled Volume Vertical Packed Plunger Multiplex Reciprocating Pumps
- 43 23 79.21 Controlled Volume Vertical Packed Piston Simplex Reciprocating Pumps
- 43 23 79.22 Controlled Volume Vertical Packed Piston Duplex Reciprocating Pumps
- 43 23 79.23 Controlled Volume Vertical Packed Piston Multiplex Reciprocating Pumps
- 43 23 79.31 Controlled Volume Vertical Mechanically-Coupled Diaphragm Simplex Reciprocating Pumps
- 43 23 79.32 Controlled Volume Vertical Mechanically-Coupled Diaphragm Duplex Reciprocating Pumps
- 43 23 79.33 Controlled Volume Vertical Mechanically-Coupled Diaphragm Multiplex Reciprocating Pumps
- 43 23 79.34 Controlled Volume Vertical Hydraulically-Coupled Diaphragm Simplex Reciprocating Pumps
- 43 23 79.35 Controlled Volume Vertical Hydraulically-Coupled Diaphragm Duplex Reciprocating Pumps
- 43 23 79.36 Controlled Volume Vertical Hydraulically-Coupled Diaphragm Multiplex Reciprocating Pumps

## **43 24 00      Suspended Liquid Pumps**

- 43 24 11 Vertically Suspended Single-Casing Submersible Centrifugal Pumps
- 43 24 13 Vertically Suspended Single-Casing Discharge-through-column Centrifugal Pumps
- 43 24 13.13 Vertically Suspended Single-Casing Discharge-through-column Diffuser Centrifugal Pumps
- 43 24 13.23 Vertically Suspended Single-Casing Discharge-through-column Volute Centrifugal Pumps
- 43 24 13.33 Vertically Suspended Single-Casing Discharge-through-column Axial Flow Centrifugal Pumps
- 43 24 16 Vertically Suspended Single-casing Separate Discharge (Sump) Centrifugal Pumps
- 43 24 16.13 Vertically Suspended Single-Casing Separate Discharge (Sump) Line Shaft Centrifugal Pumps
- 43 24 16.23 Vertically Suspended Single-Casing Separate Discharge (Sump) Cantilever Centrifugal Pumps
- 43 24 21 Vertically Suspended Double-Casing Centrifugal Pumps
- 43 24 21.13 Vertically Suspended Double-Casing Diffuser Centrifugal Pumps
- 43 24 21.23 Vertically Suspended Double-Casing Volute Centrifugal Pumps
- 43 24 26 Vertically Suspended Inline Casing Diffuser Centrifugal Pumps
- 43 24 41 Archimedes Screw Pumps
- 43 24 41.13 Positive-Displacement Inclined Open Archimedes Screw-type Pumps
- 43 24 41.23 Positive-Displacement Inclined Closed-casing Archimedes Screw-type Pumps

## **43 25 00      Submersible/Immersible Liquid Pumps**

- 43 25 13 Overhung Close-Coupled Submersible Centrifugal Pumps

|                 |                                                                   |
|-----------------|-------------------------------------------------------------------|
| 43 25 13.13     | Overhung Close-Coupled Submersible Diffuser Centrifugal Pumps     |
| 43 25 13.23     | Overhung Close-Coupled Submersible Volute Centrifugal Pumps       |
| 43 25 50        | Positive Displacement Submersible Liquid Pumps                    |
| <b>43 26 00</b> | <b>Specialized Liquid Pumps</b>                                   |
| 43 26 13        | Submersible Grinder Pumps                                         |
| 43 26 30        | Regenerative Centrifugal Pumps                                    |
| 43 26 30.13     | Overhung Impeller Regenerative Turbine Pumps                      |
| 43 26 30.21     | Overhung Impeller Single-Stage Regenerative Turbine Pumps         |
| 43 26 30.23     | Overhung Impeller Two-Stage Regenerative Turbine Pumps            |
| 43 26 30.26     | Between-Bearings Impeller Regenerative Turbine Pumps              |
| 43 26 30.27     | Between-Bearings Impeller Single-Stage Regenerative Turbine Pumps |
| 43 26 30.29     | Between-Bearings Impeller Two-Stage Regenerative Turbine Pumps    |
| 43 26 40        | Regenerative Turbine Pumps                                        |
| 43 26 60        | Regenerative Vacuum Pumps                                         |
| 43 26 70        | Rotating-Case Pumps                                               |
| <b>43 27 00</b> | <b>Process Liquid Filters</b>                                     |
| 43 27 13        | Cyclonic Liquid Filters                                           |
| 43 27 16        | Centrifugal Horizontal Pressure Leaf Liquid Filters               |
| 43 27 19        | Press Liquid Filters                                              |
| 43 27 23        | Liquid Bag Filters                                                |
| 43 27 33        | Mechanically Cleaned Liquid Filters                               |
| 43 27 43        | Tubular Backwashing Liquid Filters                                |
| 43 27 53        | Vacuum Belt Liquid Filters                                        |
| 43 27 63        | Woven Media Liquid Filters                                        |
| 43 27 63.13     | Disc Liquid Filters                                               |
| 43 27 63.23     | Rotating Drum Liquid Filters                                      |
| 43 27 63.33     | Layer Liquid Filters                                              |
| 43 27 63.43     | Candle Liquid Filters                                             |
| 43 27 63.53     | Vertical Leaf Liquid Filters                                      |
| 43 27 73        | Nonwoven Media Liquid Filters                                     |
| 43 27 73.13     | Surface Liquid Filters                                            |
| 43 27 73.23     | Depth Liquid Filters                                              |
| <b>43 30 00</b> | <b>Gas and Liquid Purification Equipment</b>                      |
| <b>43 31 00</b> | <b>Gas and Liquid Purification Filtration Equipment</b>           |
| 43 31 13        | Gas and Liquid Purification Filters                               |
| 43 31 13.13     | Activated Carbon-Gas and Liquid Purification Filters              |
| 43 31 13.16     | Gas and Liquid Purification Filter Presses                        |
| 43 31 13.19     | High-Purity Cartridge Gas and Liquid Purification Filters         |
| 43 31 13.23     | Membrane Diaphragm Gas and Liquid Purification Filters            |
| 43 31 13.26     | Multimedia Gas and Liquid Purification Filters                    |
| 43 31 13.29     | Pretreatment Cartridge Gas and Liquid Purification Filters        |
| 43 31 13.33     | Ultrafilter Units                                                 |
| <b>43 32 00</b> | <b>Gas and Liquid Purification Process Equipment</b>              |
| 43 32 13        | Gas and Liquid Purification Process Beds                          |
| 43 32 13.13     | Anion-Gas and Liquid Purification Process Beds                    |
| 43 32 13.16     | Cation-Gas and Liquid Purification Process Beds                   |
| 43 32 23        | Gas and Liquid Purification Process Clarifier Systems             |
| 43 32 26        | Gas and Liquid Purification Decarbonators                         |
| 43 32 29        | Electronic Deionization Purification Units                        |
| 43 32 33        | External Regeneration Systems                                     |
| 43 32 36        | Mixed-Bed Ion-Exchange Vessels                                    |

|             |                                                               |
|-------------|---------------------------------------------------------------|
| 43 32 39    | Gas and Liquid Purification Mixed Beds                        |
| 43 32 39.13 | Externally Regenerable Gas and Liquid Purification Mixed Beds |
| 43 32 39.16 | In-Situ Regenerable Gas and Liquid Purification Mixed Beds    |
| 43 32 53    | Packed-Bed Ion-Exchange Vessels                               |
| 43 32 56    | Reverse-Osmosis Purification Units                            |
| 43 32 59    | Gas and Liquid Purification Scrubbers                         |
| 43 32 63    | Ultraviolet Sterilizers                                       |
| 43 32 66    | Vacuum Degasifiers                                            |
| 43 32 69    | Chemical Feed Systems                                         |
| 43 32 73    | Ozonation Equipment                                           |
| 43 32 76    | Chlorination Equipment                                        |

## **43 40 00 Gas and Liquid Storage**

### **43 41 00 Non-pressurized Tanks and Vessels**

|             |                                     |
|-------------|-------------------------------------|
| 43 41 11    | Bolted Steel Tanks                  |
| 43 41 13    | Welded Steel Tanks                  |
| 43 41 13.13 | Glass-lined Welded Steel Tanks      |
| 43 41 13.23 | Rubber-lined Welded Steel Tanks     |
| 43 41 13.33 | Epoxy-lined Welded Steel Tanks      |
| 43 41 13.43 | Ceramic-lined Welded Steel Tanks    |
| 43 41 23    | Stainless Steel Tanks               |
| 43 41 26    | Aluminum Tanks                      |
| 43 41 31    | Metallic Specialty Tanks            |
| 43 41 41    | Polyvinyl Chloride Tanks            |
| 43 41 43    | Polyethylene Tanks                  |
| 43 41 45    | Fiberglass Reinforced Plastic Tanks |
| 43 41 53    | Wood Stave Tanks                    |
| 43 41 63    | Precast Concrete Tanks              |
| 43 41 73    | Ceramic Tanks                       |
| 43 41 83    | Non-metallic Specialty Tanks        |

### **43 42 00 Pressurized Tanks and Vessels**

|          |                                              |
|----------|----------------------------------------------|
| 43 42 11 | Cast Iron Pressure Tanks                     |
| 43 42 13 | Ductile Iron Pressure Tanks                  |
| 43 42 21 | Welded Steel Pressure Tanks                  |
| 43 42 23 | Glass-lined Steel Pressure Tanks             |
| 43 42 26 | Welded Steel Gas Storage Sphere              |
| 43 42 33 | Stainless Steel Pressure Tanks               |
| 43 42 36 | Aluminum Pressure Tanks                      |
| 43 42 41 | Metallic Specialty Pressure Tanks            |
| 43 42 53 | Fiberglass Reinforced Plastic Pressure Tanks |
| 43 42 83 | Non-metallic Specialty Pressure Tanks        |

## **44 00 00 Pollution and Waste Control Equipment**

### **44 01 00 Operation and Maintenance of Pollution and Waste Control Equipment**

|          |                                                                |
|----------|----------------------------------------------------------------|
| 44 01 10 | Operation and Maintenance of Air Pollution Control             |
| 44 01 20 | Operation and Maintenance of Noise Pollution Control           |
| 44 01 30 | Operation and Maintenance of Odor Control Equipment            |
| 44 01 40 | Operation and Maintenance of Water Pollution Control Equipment |

|                 |                                                                      |
|-----------------|----------------------------------------------------------------------|
| 44 01 50        | Operation and Maintenance of Solid Waste Control and Reuse           |
| 44 01 60        | Operation and Maintenance of Waste Thermal Processing Equipment      |
| <b>44 05 00</b> | <b>Common Work Results for Pollution and Waste Control Equipment</b> |
| 44 05 05        | Selective Demolition for Pollution and Waste Control Equipment       |
| <b>44 06 00</b> | <b>Schedules for Pollution and Waste Control Equipment</b>           |
| 44 06 10        | Schedules for Air Pollution Control                                  |
| 44 06 20        | Schedules for Noise Pollution Control                                |
| 44 06 30        | Schedules for Odor Control Equipment                                 |
| 44 06 40        | Schedules for Water Pollution Control Equipment                      |
| 44 06 50        | Schedules for Solid Waste Control and Reuse                          |
| 44 06 60        | Schedules for Waste Thermal Processing Equipment                     |
| <b>44 08 00</b> | <b>Commissioning of Pollution and Waste Control Equipment</b>        |
| 44 08 10        | Commissioning of Air Pollution Control                               |
| 44 08 20        | Commissioning of Noise Pollution Control                             |
| 44 08 30        | Commissioning of Odor Control Equipment                              |
| 44 08 40        | Commissioning Water Pollution Control Equipment                      |
| 44 08 50        | Commissioning Solid Waste Control and Reuse                          |
| 44 08 60        | Commissioning of Waste Thermal Processing Equipment                  |
| <b>44 10 00</b> | <b>Air Pollution Control</b>                                         |
| <b>44 11 00</b> | <b>Particulate Control Equipment</b>                                 |
| 44 11 13        | Fugitive Dust Control                                                |
| 44 11 16        | Fugitive Dust Barrier Systems                                        |
| 44 11 19        | Atmospheric Air Quality Monitoring Equipment                         |
| 44 11 20        | Gravitational Separators                                             |
| 44 11 31        | Venturi Scrubbing Equipment                                          |
| 44 11 33        | Spray Tower/Chamber Scrubbing Equipment                              |
| 44 11 36        | Cyclone Scrubbing Equipment                                          |
| 44 11 51        | Pulse Jet Fabric Filtration Equipment                                |
| 44 11 53        | Reverse Flow Fabric Filtration Equipment                             |
| 44 11 54        | Shake/Deflate Fabric Filtration Equipment                            |
| 44 11 56        | Cartridge Filtration Equipment                                       |
| 44 11 59        | Disposable Dry Filtration Equipment                                  |
| 44 11 71        | Cyclone Dust Collection Equipment                                    |
| 44 11 73        | Multicyclone Dust Collection Equipment                               |
| 44 11 76        | Mist Elimination Equipment                                           |
| 44 11 93        | Wet Electrostatic Precipitator Equipment                             |
| 44 11 96        | Dry Plate Electrostatic Precipitator Equipment                       |
| <b>44 13 00</b> | <b>Gaseous Air Pollution Control Equipment</b>                       |
| 44 13 11        | Spray Tower/Chamber Absorption Equipment                             |
| 44 13 13        | Packed Tower/Chamber Absorption Equipment                            |
| 44 13 14        | Tray Tower Absorption Equipment                                      |
| 44 13 16        | Jet Bubbling Reactor Equipment                                       |
| 44 13 17        | Venturi Absorption Equipment                                         |
| 44 13 20        | Vacuum Extraction Systems                                            |
| 44 13 31        | Powdered Injection Adsorption Equipment                              |
| 44 13 33        | Fluidized Bed Adsorption Equipment                                   |

|          |                                             |
|----------|---------------------------------------------|
| 44 13 34 | Fixed Bed Adsorption Equipment              |
| 44 13 36 | Rotary Bed Adsorption Equipment             |
| 44 13 39 | Radial Bed Adsorption Equipment             |
| 44 13 51 | Thermal Oxidation Equipment                 |
| 44 13 53 | Catalytic Oxidation Equipment               |
| 44 13 56 | Flare Oxidation Equipment                   |
| 44 13 59 | Claus Sulfur Recovery Equipment             |
| 44 13 71 | Thermal Reduction Equipment                 |
| 44 13 73 | Catalytic Reduction Equipment               |
| 44 13 76 | Non-catalytic Reduction Equipment           |
| 44 13 77 | Selective Non-catalytic Reduction Equipment |
| 44 13 81 | Condensation Systems                        |
| 44 13 83 | Contact Condensing Equipment                |
| 44 13 86 | Solvent Recovery Equipment                  |
| 44 13 91 | Biofilter Media                             |
| 44 13 93 | Fixed Bed Biofilter Equipment               |
| 44 13 96 | Fixed Bed Biotrickling Filter Equipment     |
| 44 13 97 | Fixed Bed Bioscrubbing Equipment            |

## **44 20 00 Noise Pollution Control**

### **44 21 00 Noise Pollution Control Equipment**

|          |                                   |
|----------|-----------------------------------|
| 44 21 13 | Fixed Noise Abatement Barriers    |
| 44 21 16 | Flexible Noise Abatement Barriers |
| 44 21 19 | Portable Noise Abatement Barriers |
| 44 21 23 | Noise Pollution Silencers         |
| 44 21 26 | Frequency Cancellers              |

## **44 30 00 Odor Control**

### **44 31 00 Odor Treatment Equipment**

|          |                                                    |
|----------|----------------------------------------------------|
| 44 31 11 | Wet Chemical Packed Tower Odor Control Equipment   |
| 44 31 13 | Chemical Mist System Odor Control Equipment        |
| 44 31 16 | Activated Carbon Adsorption Odor Control Equipment |
| 44 31 19 | Packaged Odor Control Systems                      |
| 44 31 21 | Odor Control Biofilters                            |
| 44 31 28 | Odor Control Biofilter Aeration Floor              |
| 44 31 29 | Odor Control Biofilter Media                       |
| 44 31 31 | Odor Control Biotrickling Filter Equipment         |
| 44 31 33 | Odor Control Bioscrubbing Equipment                |
| 44 31 41 | Odor Control Vapor Combustion Equipment            |
| 44 31 83 | Adjusting and Balancing Odor Control Systems       |

### **44 32 00 Odor Dispersing and Masking/Counteracting Equipment**

|             |                                             |
|-------------|---------------------------------------------|
| 44 32 13    | Odor Dispersing Exhaust Stacks              |
| 44 32 13.13 | Fan-equipped Odor Dispersing Exhaust Stacks |
| 44 32 23    | Odor Masking/Counteracting Equipment        |

## **44 40 00 Water Pollution Control Equipment**

### **44 41 00 Water Pollution Containment and Cleanup Equipment**

|          |                          |
|----------|--------------------------|
| 44 41 13 | Spill Cleanup            |
| 44 41 21 | Containment Booms        |
| 44 41 23 | Marine Spill Accessories |

|          |                                          |
|----------|------------------------------------------|
| 44 41 31 | Spill Decks                              |
| 44 41 32 | Drum Containment Units                   |
| 44 41 33 | Containment Pallets                      |
| 44 41 34 | Prefabricated Spill Containment Curbing  |
| 44 41 36 | Prefabricated Spill Containment Berms    |
| 44 41 37 | Prefabricated Berms for Tank Containment |
| 44 41 41 | Collapsible Storage Tanks                |

**44 50 00****Solid Waste Control and Reuse****44 51 00****Solid Waste Collection, Transfer, and Hauling Equipment**

|          |                                   |
|----------|-----------------------------------|
| 44 51 13 | Solid Waste Portable Containers   |
| 44 51 16 | Solid Waste Stationary Containers |
| 44 51 23 | Solid Waste Transfer Trailers     |

**44 53 00****Solid Waste Processing Equipment**

|          |                                              |
|----------|----------------------------------------------|
| 44 53 11 | Live-floor Storage Bins                      |
| 44 53 13 | Refuse Cranes and Accessories                |
| 44 53 16 | Solid Waste Screens                          |
| 44 53 21 | Car Crushers                                 |
| 44 53 23 | Shears and Guillotines                       |
| 44 53 26 | Shredders and Grinders                       |
| 44 53 27 | Perforators                                  |
| 44 53 31 | Bag Breakers                                 |
| 44 53 33 | Granulators                                  |
| 44 53 36 | Crumb Rubber Systems                         |
| 44 53 39 | Briquetters                                  |
| 44 53 41 | Vibratory Table Separation Equipment         |
| 44 53 43 | Ferrous Metals Separation Equipment          |
| 44 53 44 | Eddy Current Separators                      |
| 44 53 46 | Single-stream Materials Separation Equipment |
| 44 53 49 | Ballistic Separators                         |
| 44 53 51 | Air Classifying Equipment                    |
| 44 53 52 | Air Knives                                   |
| 44 53 53 | Optical Sorting Equipment                    |
| 44 53 56 | Packaged Sorting Stations                    |
| 44 53 59 | Packaged Reclaimer Stations                  |
| 44 53 61 | Solid Waste Compactors                       |
| 44 53 63 | Solid Waste Baling Equipment                 |
| 44 53 64 | Bagging Equipment                            |
| 44 53 66 | Wrappers                                     |
| 44 53 73 | Solid Waste Liquid Extraction Equipment      |

**44 55 00****Composting Equipment**

|          |                                       |
|----------|---------------------------------------|
| 44 55 11 | Electromechanical Composters          |
| 44 55 13 | Compost Screening Equipment           |
| 44 55 16 | Compost Shredding Equipment           |
| 44 55 23 | Compost Pile Turning Equipment        |
| 44 55 26 | Compost Mixing and Blending Equipment |
| 44 55 33 | In-vessel Composting Equipment        |
| 44 55 43 | Compost Pad System                    |
| 44 55 73 | Compost Liquid Extraction Equipment   |

|                 |                                                                          |
|-----------------|--------------------------------------------------------------------------|
| <b>44 60 00</b> | <b>Waste Thermal Processing Equipment</b>                                |
| <b>44 61 00</b> | <b>Waste-to-Energy Plants</b>                                            |
| 44 61 13        | Waste Receiving, Management, and Feed Equipment                          |
| 44 61 16        | Mass Burn Combustion Equipment                                           |
| 44 61 23        | Refuse-derived Fuel Feed Equipment                                       |
| 44 61 26        | Refuse-derived Fuel Combustion Equipment                                 |
| 44 61 29        | Modular Combustion System Equipment                                      |
| 44 61 31        | Ash Handling Equipment                                                   |
| 44 61 33        | Post-combustion Ferrous Metals Recovery Equipment                        |
| 44 61 36        | Post-combustion Non-ferrous Metals Recovery Equipment                    |
| <b>44 62 00</b> | <b>Fluidized Bed Combustion Equipment</b>                                |
| <b>44 63 00</b> | <b>Rotary Kiln Incinerators</b>                                          |
| <b>44 64 00</b> | <b>Gasification Equipment</b>                                            |
| 44 64 13        | Counter-current Fixed Bed Gasification Equipment                         |
| 44 64 23        | Co-current Fixed Bed Gasification Equipment                              |
| 44 64 33        | Fluidized Bed Gasification Equipment                                     |
| 44 64 43        | Entrained Flow Gasification Equipment                                    |
| 44 64 53        | Plasma Arc Gasification Equipment                                        |
| <b>44 65 00</b> | <b>Pyrolysis Equipment</b>                                               |
| <b>44 66 00</b> | <b>Hazardous Waste and Medical Waste Incinerators</b>                    |
| <b>44 67 00</b> | <b>Heat Recovery Equipment for Waste Thermal Processing</b>              |
| <b>44 68 00</b> | <b>Synthesis Gas Cleanup and Handling Equipment</b>                      |
| <b>45 00 00</b> | <b>Industry-Specific Manufacturing Equipment</b>                         |
| <b>45 05 00</b> | <b>Common Work Results for Industry-Specific Manufacturing Equipment</b> |
| 45 05 05        | Selective Demolition for Industry-Specific Manufacturing Equipment       |
| <b>45 08 00</b> | <b>Commissioning of Industry-Specific Manufacturing Equipment</b>        |
| <b>45 11 00</b> | <b>Oil and Gas Extraction Equipment</b>                                  |
| 45 11 01        | Operation and Maintenance of Oil and Gas Extraction Equipment            |
| 45 11 06        | Schedules for Oil and Gas Extraction Equipment                           |
| 45 11 10        | User-Defined Oil and Gas Extraction Equipment                            |
| <b>45 12 00</b> | <b>User-Defined Oil and Gas Extraction Equipment</b>                     |
| <b>45 13 00</b> | <b>Mining Machinery and Equipment</b>                                    |
| 45 13 01        | Operation and Maintenance of Mining Machinery and Equipment              |
| 45 13 06        | Schedules for Mining Machinery and Equipment                             |
| 45 13 10        | User-Defined Mining Machinery and Equipment                              |
| <b>45 14 00</b> | <b>User-Defined Mining Machinery and Equipment</b>                       |
| <b>45 15 00</b> | <b>Food Manufacturing Equipment</b>                                      |
| 45 15 01        | Operation and Maintenance of Food Manufacturing Equipment                |
| 45 15 06        | Schedules for Food Manufacturing Equipment                               |
| 45 15 10        | User-Defined Food Manufacturing Equipment                                |

|                 |                                                                                  |
|-----------------|----------------------------------------------------------------------------------|
| <b>45 16 00</b> | <b>User-Defined Food Manufacturing Equipment</b>                                 |
| <b>45 17 00</b> | <b>Beverage and Tobacco Manufacturing Equipment</b>                              |
| 45 17 01        | Operation and Maintenance of Beverage and Tobacco Manufacturing Equipment        |
| 45 17 06        | Schedules for Beverage and Tobacco Manufacturing Equipment                       |
| 45 17 10        | User-Defined Beverage and Tobacco Manufacturing Equipment                        |
| <b>45 18 00</b> | <b>User-Defined Beverage and Tobacco Manufacturing Equipment</b>                 |
| <b>45 19 00</b> | <b>Textiles and Apparel Manufacturing Equipment</b>                              |
| 45 19 01        | Operation and Maintenance of Textiles and Apparel Manufacturing Equipment        |
| 45 19 06        | Schedules for Textiles and Apparel Manufacturing Equipment                       |
| 45 19 10        | User-Defined Textiles and Apparel Manufacturing Equipment                        |
| <b>45 20 00</b> | <b>User-Defined Textiles and Apparel Manufacturing Equipment</b>                 |
| <b>45 21 00</b> | <b>Leather and Allied Product Manufacturing Equipment</b>                        |
| 45 21 01        | Operation and Maintenance of Leather and Allied Product Manufacturing Equipment  |
| 45 21 06        | Schedules for Leather and Allied Product Manufacturing Equipment                 |
| 45 21 10        | User-Defined Leather and Allied Product Manufacturing Equipment                  |
| <b>45 22 00</b> | <b>User-Defined Leather and Allied Product Manufacturing Equipment</b>           |
| <b>45 23 00</b> | <b>Wood Product Manufacturing Equipment</b>                                      |
| 45 23 01        | Operation and Maintenance of Wood Product Manufacturing Equipment                |
| 45 23 06        | Schedules for Wood Product Manufacturing Equipment                               |
| 45 23 10        | User-Defined Wood Product Manufacturing Equipment                                |
| <b>45 24 00</b> | <b>User-Defined Wood Product Manufacturing Equipment</b>                         |
| <b>45 25 00</b> | <b>Paper Manufacturing Equipment</b>                                             |
| 45 25 01        | Operation and Maintenance of Paper Manufacturing Equipment                       |
| 45 25 06        | Schedules for Paper Manufacturing Equipment                                      |
| 45 25 10        | User-Defined Paper Manufacturing Equipment                                       |
| <b>45 26 00</b> | <b>User-Defined Paper Manufacturing Equipment</b>                                |
| <b>45 27 00</b> | <b>Printing and Related Manufacturing Equipment</b>                              |
| 45 27 01        | Operation and Maintenance of Printing and Related Manufacturing Equipment        |
| 45 27 06        | Schedules for Printing and Related Manufacturing Equipment                       |
| 45 27 10        | User-Defined Printing and Related Manufacturing Equipment                        |
| <b>45 28 00</b> | <b>User-Defined Printing and Related Manufacturing Equipment</b>                 |
| <b>45 29 00</b> | <b>Petroleum and Coal Products Manufacturing Equipment</b>                       |
| 45 29 01        | Operation and Maintenance of Petroleum and Coal Products Manufacturing Equipment |
| 45 29 06        | Schedules for Petroleum and Coal Products Manufacturing Equipment                |
| 45 29 10        | User-Defined Petroleum and Coal Products Manufacturing Equipment                 |



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|-----------------|--------------------------------------------------------------------------------------|
| <b>45 30 00</b> | <b>User-Defined Petroleum and Coal Products Manufacturing Equipment</b>              |
| <b>45 31 00</b> | <b>Chemical Manufacturing Equipment</b>                                              |
| 45 31 01        | Operation and Maintenance of Chemical Manufacturing Equipment                        |
| 45 31 06        | Schedules for Chemical Manufacturing Equipment                                       |
| 45 31 10        | User-Defined Chemical Manufacturing Equipment                                        |
| <b>45 32 00</b> | <b>User-Defined Chemical Manufacturing Equipment</b>                                 |
| <b>45 33 00</b> | <b>Plastics and Rubber Manufacturing Equipment</b>                                   |
| 45 33 01        | Operation and Maintenance of Plastics and Rubber Manufacturing Equipment             |
| 45 33 06        | Schedules for Plastics and Rubber Manufacturing Equipment                            |
| 45 33 10        | User-Defined Plastics and Rubber Manufacturing Equipment                             |
| <b>45 34 00</b> | <b>User-Defined Plastics and Rubber Manufacturing Equipment</b>                      |
| <b>45 35 00</b> | <b>Nonmetallic Mineral Product Manufacturing Equipment</b>                           |
| 45 35 01        | Operation and Maintenance of Nonmetallic Mineral Product Manufacturing Equipment     |
| 45 35 06        | Schedules for Nonmetallic Mineral Product Manufacturing Equipment                    |
| 45 35 10        | User-Defined Nonmetallic Mineral Product Manufacturing Equipment                     |
| <b>45 36 00</b> | <b>User-Defined Nonmetallic Mineral Product Manufacturing Equipment</b>              |
| <b>45 37 00</b> | <b>Primary Metal Manufacturing Equipment</b>                                         |
| 45 37 01        | Operation and Maintenance of Primary Metal Manufacturing Equipment                   |
| 45 37 06        | Schedules for Primary Metal Manufacturing Equipment                                  |
| 45 37 10        | User-Defined Primary Metal Manufacturing Equipment                                   |
| <b>45 38 00</b> | <b>User-Defined Primary Metal Manufacturing Equipment</b>                            |
| <b>45 39 00</b> | <b>Fabricated Metal Product Manufacturing Equipment</b>                              |
| 45 39 01        | Operation and Maintenance of Fabricated Metal Product Manufacturing Equipment        |
| 45 39 06        | Schedules for Fabricated Metal Product Manufacturing Equipment                       |
| 45 39 10        | User-Defined Fabricated Metal Product Manufacturing Equipment                        |
| <b>45 40 00</b> | <b>User-Defined Fabricated Metal Product Manufacturing Equipment</b>                 |
| <b>45 41 00</b> | <b>Machinery Manufacturing Equipment</b>                                             |
| 45 41 01        | Operation and Maintenance of Machinery Manufacturing Equipment                       |
| 45 41 06        | Schedules for Machinery Manufacturing Equipment                                      |
| 45 41 10        | User-Defined Machinery Manufacturing Equipment                                       |
| <b>45 42 00</b> | <b>User-Defined Machinery Manufacturing Equipment</b>                                |
| <b>45 43 00</b> | <b>Computer and Electronic Product Manufacturing Equipment</b>                       |
| 45 43 01        | Operation and Maintenance of Computer and Electronic Product Manufacturing Equipment |
| 45 43 06        | Schedules for Computer and Electronic Product Manufacturing Equipment                |

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| 45 43 10        | User-Defined Computer and Electronic Product Manufacturing Equipment                                |
| <b>45 44 00</b> | <b>User-Defined Computer and Electronic Product Manufacturing Equipment</b>                         |
| <b>45 45 00</b> | <b>Electrical Equipment, Appliance, and Component Manufacturing Equipment</b>                       |
| 45 45 01        | Operation and Maintenance of Electrical Equipment, Appliance, and Component Manufacturing Equipment |
| 45 45 06        | Schedules for Electrical Equipment, Appliance, and Component Manufacturing Equipment                |
| 45 45 10        | User-Defined Electrical Equipment, Appliance, and Component Manufacturing Equipment                 |
| <b>45 46 00</b> | <b>User-Defined Electrical Equipment, Appliance, and Component Manufacturing Equipment</b>          |
| <b>45 47 00</b> | <b>Transportation Manufacturing Equipment</b>                                                       |
| 45 47 01        | Operation and Maintenance of Transportation Manufacturing Equipment                                 |
| 45 47 06        | Schedules for Transportation Manufacturing Equipment                                                |
| 45 47 10        | User-Defined Transportation Manufacturing Equipment                                                 |
| <b>45 48 00</b> | <b>User-Defined Transportation Manufacturing Equipment</b>                                          |
| <b>45 49 00</b> | <b>Furniture and Related Product Manufacturing Equipment</b>                                        |
| 45 49 01        | Operation and Maintenance of Furniture and Related Product Manufacturing Equipment                  |
| 45 49 06        | Schedules for Furniture and Related Product Manufacturing Equipment                                 |
| 45 49 10        | User-Defined Furniture and Related Product Manufacturing Equipment                                  |
| <b>45 50 00</b> | <b>User-Defined Furniture and Related Product Manufacturing Equipment</b>                           |
| <b>45 52 00</b> | <b>User-Defined Other Manufacturing Equipment</b>                                                   |
| <b>45 53 00</b> | <b>Biopharmaceutical Manufacturing Equipment</b>                                                    |
| <b>46 00 00</b> | <b>Water and Wastewater Equipment</b>                                                               |
| <b>46 01 00</b> | <b>Operation and Maintenance of Water and Wastewater Equipment</b>                                  |
| 46 01 07        | Operation and Maintenance of Packaged Treatment Equipment                                           |
| 46 01 20        | Operation and Maintenance of Preliminary Treatment Equipment                                        |
| 46 01 30        | Operation and Maintenance of Chemical Feed Equipment                                                |
| 46 01 40        | Operation and Maintenance of Clarification and Mixing Equipment                                     |
| 46 01 50        | Operation and Maintenance of Secondary Treatment Equipment                                          |
| 46 01 60        | Operation and Maintenance of Advanced Treatment Equipment                                           |
| 46 01 70        | Operation and Maintenance of Residuals Handling and Treatment                                       |
| <b>46 05 00</b> | <b>Common Work Results for Water and Wastewater Equipment</b>                                       |
| 46 05 05        | Selective Demolition for Water and Wastewater Equipment                                             |
| <b>46 06 00</b> | <b>Schedules for Water and Wastewater Equipment</b>                                                 |
| 46 06 07        | Schedules for Packaged Treatment Equipment                                                          |

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|-----------------|-------------------------------------------------------------|
| 46 06 20        | Schedules for Preliminary Treatment Equipment               |
| 46 06 30        | Schedules for Chemical Feed Equipment                       |
| 46 06 40        | Schedules for Clarification and Mixing Equipment            |
| 46 06 50        | Schedules for Secondary Treatment Equipment                 |
| 46 06 60        | Schedules for Advanced Treatment Equipment                  |
| 46 06 70        | Schedules for Residuals Handling and Treatment              |
| <b>46 07 00</b> | <b>Packaged Water and Wastewater Treatment Equipment</b>    |
| 46 07 13        | Packaged Water Treatment Equipment                          |
| 46 07 53        | Packaged Wastewater Treatment Equipment                     |
| <b>46 08 00</b> | <b>Commissioning of Water and Wastewater Equipment</b>      |
| 46 08 07        | Commissioning of Packaged Treatment Equipment               |
| 46 08 20        | Commissioning of Preliminary Treatment Equipment            |
| 46 08 30        | Commissioning of Chemical Feed Equipment                    |
| 46 08 40        | Commissioning of Clarification and Mixing Equipment         |
| 46 08 50        | Commissioning of Secondary Treatment Equipment              |
| 46 08 60        | Commissioning of Advanced Treatment Equipment               |
| 46 08 70        | Commissioning of Residuals Handling and Treatment           |
| <b>46 20 00</b> | <b>Water and Wastewater Preliminary Treatment Equipment</b> |
| <b>46 21 00</b> | <b>Screening Equipment</b>                                  |
| 46 21 11        | Climber-type Bar Screens                                    |
| 46 21 13        | Chain-and-Rake Bar Screens                                  |
| 46 21 16        | Flexible Rake Bar Screens                                   |
| 46 21 17        | Catenary Bar Screens                                        |
| 46 21 19        | Continuous Belt Screens                                     |
| 46 21 23        | Cylindrical Bar Screens                                     |
| 46 21 26        | Step Screens                                                |
| 46 21 33        | Rotary Drum Screens                                         |
| 46 21 39        | Spiral Screens                                              |
| 46 21 43        | Band Screens                                                |
| 46 21 46        | Disc Screens                                                |
| 46 21 51        | Traveling Water Screens                                     |
| 46 21 53        | Perforated Plate Screens                                    |
| 46 21 56        | Wedge Wire Screens                                          |
| 46 21 57        | Element Screens                                             |
| 46 21 71        | Trash Raking Equipment                                      |
| 46 21 73        | Screenings Washing and Compacting Equipment                 |
| 46 21 76        | Vacuum Screenings Conveying Equipment                       |
| 46 21 79        | Screenings Storage Containers                               |
| 46 21 83        | Septage Receiving Equipment                                 |
| <b>46 23 00</b> | <b>Grit Removal and Handling Equipment</b>                  |
| 46 23 13        | Chain-and-Bucket Grit Removal Equipment                     |
| 46 23 16        | Chain-and-Flight Grit Removal Equipment                     |
| 46 23 23        | Vortex Grit Removal Equipment                               |
| 46 23 27        | Cyclone Degritters                                          |
| 46 23 33        | Aerated Grit Removal Equipment                              |
| 46 23 43        | Inline Baffled Grit Removal Equipment                       |

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|-----------------|-------------------------------------------------------------|
| 46 23 53        | Traveling Bridge Grit Removal Equipment                     |
| 46 23 63        | Grit Classifying and Washing Equipment                      |
| 46 23 66        | Grit Storage Containers                                     |
| <b>46 24 00</b> | <b>Grinding and Shredding Equipment</b>                     |
| 46 24 13        | Macerators                                                  |
| 46 24 16        | Comminutors                                                 |
| 46 24 23        | Inline Grinders                                             |
| 46 24 33        | Open-channel Grinders                                       |
| 46 24 36        | Modular Grinding-Screening-Compacting Equipment             |
| <b>46 25 00</b> | <b>Oil and Grease Separation and Removal Equipment</b>      |
| 46 25 13        | Coalescing Oil-Water Separators                             |
| 46 25 16        | API Oil-Water Separators                                    |
| 46 25 23        | Grease Traps                                                |
| 46 25 33        | Dissolved Air Flotation Grease and Oil Separation Equipment |
| 46 25 41        | Helical Scum Skimming and Removal Equipment                 |
| 46 25 43        | Tipping Trough Scum Skimming and Removal Equipment          |
| 46 25 46        | Chain and Flight Scum Collection and Removal Equipment      |
| 46 25 47        | Floating Scum Skimming and Removal Equipment                |
| <b>46 30 00</b> | <b>Water and Wastewater Chemical Feed Equipment</b>         |
| <b>46 31 00</b> | <b>Gas Chemical Feed Equipment</b>                          |
| 46 31 11        | Chlorine Gas Feed Equipment                                 |
| 46 31 13        | Sulfur Dioxide Gas Feed Equipment                           |
| 46 31 16        | Ammonia Gas Feed Equipment                                  |
| 46 31 23        | Gas Storage, Weighing, and Leak Detection Equipment         |
| 46 31 26        | Emergency Gas Treatment Systems                             |
| 46 31 33        | Chlorine Dioxide Reactors                                   |
| 46 31 43        | Carbon Dioxide Gas Feed Equipment                           |
| 46 31 53        | Ozone Generating and Feed Equipment                         |
| 46 31 56        | Liquid Oxygen Storage and Feed Equipment                    |
| 46 31 59        | Cleaning Requirements for Oxygen Service                    |
| 46 31 83        | Gas Chemical Feed Accessories and Safety Equipment          |
| <b>46 33 00</b> | <b>Liquid Chemical Feed Equipment</b>                       |
| 46 33 13        | Sodium Hypochlorite Generating Equipment                    |
| 46 33 23        | Liquid Chemical Weighing Equipment                          |
| 46 33 33        | Polymer Blending and Feed Equipment                         |
| 46 33 41        | Liquid Chemical Feed System Coordination and Integration    |
| 46 33 42        | Diaphragm-type Metering Pumps                               |
| 46 33 44        | Peristaltic Metering Pumps                                  |
| 46 33 46        | Progressing Cavity Metering Pumps                           |
| 46 33 48        | Lobe Metering Pumps                                         |
| 46 33 53        | Drum Pumps                                                  |
| 46 33 66        | Liquid Chemical Transfer Pumps                              |
| 46 33 73        | Liquid Chemical Diffusers                                   |
| 46 33 83        | Liquid Chemical Feed Accessories and Safety Equipment       |
| <b>46 36 00</b> | <b>Dry Chemical Feed Equipment</b>                          |
| 46 36 11        | Dry Chemical Feed System Coordination and Integration       |
| 46 36 13        | Storage Silos                                               |

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| 46 36 23 | Dry Chemical Weighing Equipment                    |
| 46 36 33 | Volumetric Feed Equipment                          |
| 46 36 36 | Gravimetric Feed Equipment                         |
| 46 36 43 | Lime Slaking Equipment                             |
| 46 36 53 | Chemical Tablet Feeding Equipment                  |
| 46 36 83 | Dry Chemical Feed Accessories and Safety Equipment |

## **46 40 00 Water and Wastewater Clarification and Mixing Equipment**

### **46 41 00 Mixing Equipment**

|          |                                               |
|----------|-----------------------------------------------|
| 46 41 11 | Rapid Mixers                                  |
| 46 41 13 | Inline Blender-type Rapid Mixers              |
| 46 41 16 | Induction-type Rapid Mixing Equipment         |
| 46 41 17 | Inline Static Mixers                          |
| 46 41 21 | Jet Mixing Equipment                          |
| 46 41 23 | Submersible Mixers                            |
| 46 41 26 | Floating Mechanical Mixers                    |
| 46 41 27 | Paddle Mixers                                 |
| 46 41 29 | Pin Mixers                                    |
| 46 41 31 | Vertical Reel Flocculation Equipment          |
| 46 41 33 | Horizontal Reel Flocculation Equipment        |
| 46 41 34 | Vertical Turbine Flocculation Equipment       |
| 46 41 36 | Walking-beam Flocculation Equipment           |
| 46 41 38 | Horizontal Oscillating Flocculation Equipment |
| 46 41 41 | Top-entering Tank Mixers                      |
| 46 41 43 | Side-entry Tank Mixers                        |
| 46 41 46 | Portable Tank Mixers                          |

### **46 43 00 Clarifier Equipment**

|          |                                                       |
|----------|-------------------------------------------------------|
| 46 43 11 | Chain-and-Flight Clarifier Equipment                  |
| 46 43 14 | Traveling Bridge Clarifier Equipment                  |
| 46 43 16 | Differential Head Clarifier Equipment                 |
| 46 43 18 | Oscillating Scraper-type Clarifier Equipment          |
| 46 43 21 | Circular Clarifier Equipment                          |
| 46 43 53 | Solids Contact Clarifier Equipment                    |
| 46 43 61 | Flocculating Clarifier, Pulsating Sludge Blanket Type |
| 46 43 63 | Dissolved Air Flotation Equipment for Water Treatment |
| 46 43 66 | Ballasted High-rate Clarifier Equipment               |
| 46 43 67 | High rate Clarification/Thickening Equipment          |
| 46 43 73 | Tube Settlers                                         |
| 46 43 76 | Inclined Plate Settlers                               |

### **46 46 00 Sediment Removal Equipment**

|          |                                 |
|----------|---------------------------------|
| 46 46 13 | Tipping Sediment Flushing Tanks |
| 46 46 16 | Flushing Gates                  |
| 46 46 23 | Water Cannon                    |
| 46 46 26 | Nozzle Systems                  |

## **46 50 00 Water and Wastewater Secondary Treatment Equipment**

### **46 51 00 Air and Gas Diffusion Equipment**

|          |                                          |
|----------|------------------------------------------|
| 46 51 11 | Fixed Mechanical Aerators                |
| 46 51 13 | Floating Mechanical Aerators             |
| 46 51 16 | Submersible Aspirating Aerator Equipment |
| 46 51 17 | Jet Aeration Equipment                   |
| 46 51 21 | Coarse Bubble Diffusers                  |
| 46 51 23 | Swing-type Channel Aeration Equipment    |
| 46 51 26 | Shear Box Diffusers                      |
| 46 51 31 | Flexible Membrane Tube Diffusers         |
| 46 51 33 | Flexible Membrane Disc Diffusers         |
| 46 51 36 | Ceramic Disc Fine Bubble Diffusers       |
| 46 51 43 | Floating Membrane Diffusers              |
| 46 51 46 | Membrane Diffusers                       |
| 46 51 53 | Cascading Aerators                       |
| 46 51 63 | Pure-oxygen Generating Equipment         |

## **46 53 00 Biological Treatment Systems**

|          |                                                    |
|----------|----------------------------------------------------|
| 46 53 13 | Rotating Biological Contactors                     |
| 46 53 23 | Trickling Filter Rotary Distributor Equipment      |
| 46 53 24 | Trickling Filter Media                             |
| 46 53 26 | Bio-towers                                         |
| 46 53 33 | Moving-bed Biological Reactors                     |
| 46 53 36 | Integrated Fixed-film Activated Sludge Equipment   |
| 46 53 41 | Intermittent Sand Filters for Wastewater Treatment |
| 46 53 43 | Deep-bed Denitrification Filters                   |
| 46 53 46 | Biologically Activated Filters                     |
| 46 53 49 | Membrane Biological Reactors                       |
| 46 53 53 | Sequencing Batch Reactors                          |
| 46 53 61 | Oxidation Ditch Equipment                          |
| 46 53 63 | Vertical Loop Reactors                             |

## **46 60 00 Water and Wastewater Advanced Treatment Equipment**

### **46 61 00 Filtration Equipment**

|          |                                                        |
|----------|--------------------------------------------------------|
| 46 61 13 | Filter Media                                           |
| 46 61 16 | Filter Surface Wash Agitators                          |
| 46 61 17 | Filter Air Scour Equipment                             |
| 46 61 19 | Wash Water Troughs                                     |
| 46 61 21 | Pressure Filters                                       |
| 46 61 23 | Gravity Filters                                        |
| 46 61 26 | High-rate Sand Filters                                 |
| 46 61 29 | Traveling Bridge Filters                               |
| 46 61 33 | Microfiltration and Ultrafiltration Membrane Equipment |
| 46 61 41 | Disc Cloth Filters                                     |
| 46 61 43 | Rotary Drum Cloth Filters                              |
| 46 61 46 | Automatic Backwash Cloth Filter Equipment              |
| 46 61 53 | Cartridge Filters                                      |
| 46 61 63 | Bag Filters                                            |
| 46 61 73 | Automatic Straining Equipment                          |

### **46 63 00 Demineralization Equipment**

|          |                                       |
|----------|---------------------------------------|
| 46 63 11 | Ion-exchange Vessel Media             |
| 46 63 13 | Mixed Bed Ion-exchange Vessel Systems |

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| 46 63 16        | Packed Bed Ion-exchange Vessel Systems                                    |
| 46 63 17        | Electrodialysis Reversal Equipment                                        |
| 46 63 23        | Reverse-Osmosis and Nanofiltration Membrane Equipment                     |
| 46 63 31        | Multiple-effect Distillation Equipment                                    |
| 46 63 32        | Water Vapor Compression Distillation Equipment                            |
| 46 63 33        | Desalination Mechanical Vapor Compression Equipment                       |
| 46 63 34        | Desalination Thermal Vapor Compression Equipment                          |
| 46 63 36        | Desalination Multi-stage Flash Equipment                                  |
| 46 63 41        | Desalination Falling Film Evaporators                                     |
| 46 63 43        | Desalination Rising Film Evaporators                                      |
| 46 63 53        | Desalination Forced-circulation Crystallizing Equipment                   |
| 46 63 63        | Desalination Spray Dry Evaporation Equipment                              |
| 46 63 73        | Demineralization Energy Recovery Equipment                                |
| <b>46 66 00</b> | <b>Ultraviolet Equipment</b>                                              |
| 46 66 13        | Closed-vessel Low-pressure/Low-intensity Ultraviolet Treatment Equipment  |
| 46 66 16        | Closed-vessel Low-pressure/High-intensity Ultraviolet Treatment Equipment |
| 46 66 23        | Closed-vessel Medium-pressure Ultraviolet Treatment Equipment             |
| 46 66 53        | Open-channel Low-pressure/Low-intensity Ultraviolet Treatment Equipment   |
| 46 66 56        | Open-channel Low-pressure/High-intensity Ultraviolet Treatment Equipment  |
| 46 66 63        | Open-channel Medium-pressure Ultraviolet Treatment Equipment              |
| <b>46 70 00</b> | <b>Water and Wastewater Residuals Handling and Treatment</b>              |
| <b>46 71 00</b> | <b>Residuals Thickening Equipment</b>                                     |
| 46 71 13        | Circular Gravity Thickeners                                               |
| 46 71 16        | Gravity Belt Thickeners                                                   |
| 46 71 23        | Dissolved Air Flotation Thickening Equipment                              |
| 46 71 33        | Rotary Drum Thickening Equipment                                          |
| 46 71 36        | Centrifuge Thickening Equipment                                           |
| 46 71 43        | Disc Thickeners                                                           |
| 46 71 46        | Thickening Screw Press                                                    |
| 46 71 53        | Scum Concentrator Equipment                                               |
| <b>46 73 00</b> | <b>Residuals Stabilization</b>                                            |
| 46 73 11        | Radial Beam Fixed Digester Covers                                         |
| 46 73 12        | Dual Deck Truss-type Fixed Digester Covers                                |
| 46 73 14        | Radial Beam Floating Digester Covers                                      |
| 46 73 16        | Dual Deck Truss-type Floating Digester Covers                             |
| 46 73 17        | Radial Beam Floating Gas-holding Digester Covers                          |
| 46 73 18        | Dual Deck Truss-type Floating Gas-holding Digester Covers                 |
| 46 73 19        | Digester Appurtenances                                                    |
| 46 73 21        | Aerobic Digester Aeration Equipment                                       |
| 46 73 24        | Autothermal Thermophilic Aerobic Digestion Equipment                      |
| 46 73 26        | Egg-shaped Digesters                                                      |
| 46 73 31        | External Draft Tube Digester Mixing System                                |
| 46 73 32        | Internal Draft Tube Digester Mixing System                                |
| 46 73 33        | Confined Gas Mixing System                                                |

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| 46 73 34        | Unconfined Gas Mixing System                                       |
| 46 73 41        | Digester Heating Equipment                                         |
| 46 73 63        | Residuals Pasteurization Equipment                                 |
| <b>46 76 00</b> | <b>Residuals Dewatering Equipment</b>                              |
| 46 76 13        | Vacuum Filters                                                     |
| 46 76 21        | Belt Filter Presses                                                |
| 46 76 23        | Plate-and-Frame Filter Presses                                     |
| 46 76 26        | Rotary Presses                                                     |
| 46 76 27        | Screw Presses                                                      |
| 46 76 33        | Dewatering Centrifuges                                             |
| 46 76 53        | Belt Dryers                                                        |
| 46 76 60        | Direct-heat Residuals Drying Equipment                             |
| 46 76 70        | Indirect-heat Residuals Drying Equipment                           |
| <b>46 78 00</b> | <b>Thermal Treatment of Residuals</b>                              |
| 46 78 13        | Multiple-hearth Sludge Incinerators                                |
| 46 78 23        | Fluidized-bed Sludge Incinerators                                  |
| 46 78 33        | Ash Handling Equipment                                             |
| 46 78 41        | Recuperative Air Preheating Equipment                              |
| 46 78 46        | Regenerative Thermal Oxidizers                                     |
| 46 78 47        | Waste Heat Recovery Boilers                                        |
| 46 78 49        | Waste Heat Recovery Heat Exchangers                                |
| 46 78 73        | Thermal Oxidation Equipment                                        |
| <b>48 00 00</b> | <b>Electrical Power Generation</b>                                 |
| <b>48 01 00</b> | <b>Operation and Maintenance for Electrical Power Generation</b>   |
| 48 01 10        | Operation and Maintenance of Electrical Power Generation Equipment |
| 48 01 70        | Operation and Maintenance of Electrical Power Generation Testing   |
| <b>48 05 00</b> | <b>Common Work Results for Electrical Power Generation</b>         |
| 48 05 05        | Selective Demolition for Electrical Power Generation               |
| <b>48 06 00</b> | <b>Schedules for Electrical Power Generation</b>                   |
| 48 06 10        | Schedules for Electrical Power Generation Equipment                |
| 48 06 70        | Schedules for Electrical Power Generation Testing                  |
| <b>48 08 00</b> | <b>Commissioning of Electrical Power Generation</b>                |
| <b>48 09 00</b> | <b>Instrumentation and Control for Electrical Power Generation</b> |
| <b>48 10 00</b> | <b>Electrical Power Generation Equipment</b>                       |
| <b>48 11 00</b> | <b>Fossil Fuel Plant Electrical Power Generation Equipment</b>     |
| 48 11 13        | Fossil Fuel Electrical Power Plant Boilers                         |
| 48 11 16        | Fossil Fuel Electrical Power Plant Condensers                      |
| 48 11 19        | Fossil Fuel Electrical Power Plant Steam Turbines                  |
| 48 11 23        | Fossil Fuel Electrical Power Plant Gas Turbines                    |
| 48 11 26        | Fossil Fuel Electrical Power Plant Generators                      |
| <b>48 12 00</b> | <b>Nuclear Fuel Plant Electrical Power Generation</b>              |



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|                 | <b>Equipment</b>                                                    |
| 48 12 13        | Nuclear Fuel Reactors                                               |
| 48 12 13.13     | Nuclear Fuel Fission Reactors                                       |
| 48 12 13.16     | Nuclear Fuel Fusion Reactors                                        |
| 48 12 23        | Nuclear Fuel Electrical Power Plant Steam Generators                |
| 48 12 26        | Nuclear Fuel Electrical Power Plant Condensers                      |
| 48 12 29        | Nuclear Fuel Electrical Power Plant Turbines                        |
| 48 12 33        | Nuclear Fuel Electrical Power Generators                            |
| <b>48 13 00</b> | <b>Hydroelectric Plant Electrical Power Generation Equipment</b>    |
| 48 13 13        | Hydroelectric Power Plant Water Turbines                            |
| 48 13 16        | Hydroelectric Power Plant Electrical Power Generators               |
| <b>48 14 00</b> | <b>Solar Energy Electrical Power Generation Equipment</b>           |
| 48 14 13        | Solar Energy Collectors                                             |
| 48 14 13.13     | Amorphous Solar Energy Collectors                                   |
| 48 14 13.16     | Plate Cell Solar Energy Collectors                                  |
| 48 14 13.19     | Vacuum Tube Solar Energy Collectors                                 |
| <b>48 15 00</b> | <b>Wind Energy Electrical Power Generation Equipment</b>            |
| 48 15 13        | Wind Turbines                                                       |
| 48 15 16        | Wind Energy Electrical Power Generators                             |
| <b>48 16 00</b> | <b>Geothermal Energy Electrical Power Generation Equipment</b>      |
| 48 16 13        | Geothermal Energy Heat Pumps                                        |
| 48 16 16        | Geothermal Energy Condensers                                        |
| 48 16 19        | Geothermal Energy Steam Turbines                                    |
| 48 16 23        | Geothermal Energy Electrical Power Generators                       |
| <b>48 17 00</b> | <b>Electrochemical Energy Electrical Power Generation Equipment</b> |
| 48 17 13        | Electrical Power Generation Batteries                               |
| <b>48 18 00</b> | <b>Fuel Cell Electrical Power Generation Equipment</b>              |
| 48 18 13        | Electrical Power Generation Fuel Cells                              |
| 48 18 16        | Hydrogen Control Equipment                                          |
| <b>48 19 00</b> | <b>Electrical Power Control Equipment</b>                           |
| 48 19 13        | Electrical Power Generation Battery Charging Equipment              |
| 48 19 16        | Electrical Power Generation Inverters                               |
| 48 19 19        | Electrical Power Generation Solar Tracking Equipment                |
| 48 19 23        | Electrical Power Generation Transformers                            |
| 48 19 26        | Electrical Power Generation Voltage Regulators                      |
| <b>48 30 00</b> | <b>Combined Heat and Power Generation</b>                           |
| <b>48 31 00</b> | <b>Combustion Combined Heat and Power Generation</b>                |
| 48 31 13        | Natural Gas-Fueled Combined Heat and Power Generation               |
| 48 31 16        | Biomass-Fueled Combined Heat and Power Generation                   |
| <b>48 70 00</b> | <b>Electrical Power Generation Testing</b>                          |
| <b>48 71 00</b> | <b>Electrical Power Generation Test Equipment</b>                   |
| 48 71 13        | Electrical Power Generation Corona Test Equipment                   |
| 48 71 16        | Electrical Power Generation Current Test Equipment                  |

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| 48 71 19 | Electrical Power Generation Power Test Equipment      |
| 48 71 23 | Electrical Power Generation Resistance Test Equipment |
| 48 71 26 | Electrical Power Generation Voltage Test Equipment    |