

00 Using The Construction Task Catalog®	1
<hr/>	
01 General Requirements	1
01 10 Summary	1
01 11 Summary Of Work	1
01 20 Price and Payment Procedures.....	1
01 22 Unit Prices.....	1
01 40 Quality Requirements.....	31
01 41 Regulatory Requirements	31
01 42 References.....	31
01 45 Quality Control	32
01 50 Temporary Facilities and Controls.....	35
01 51 Temporary Utilities.....	35
01 52 Construction Facilities.....	35
01 53 Temporary Construction	37
01 54 Construction Aids.....	37
01 55 Vehicular Access and Parking	39
01 56 Temporary Barriers and Enclosures	41
01 57 Temporary Controls	52
01 58 Project Identification.....	52
01 60 Product Requirements.....	53
01 66 Product Storage and Handling Requirements	53
01 70 Execution and Closeout Requirements	53
01 71 Examination and Preparation	53
01 74 Cleaning and Waste Management	54
<hr/>	
02 Existing Conditions	1
02 20 Assessment.....	1
02 25 Existing Material Assessment.....	1
02 40 Demolition and Structure Moving	1
02 41 Demolition	1
02 42 Removal and Salvage of Construction Materials.....	18
02 60 Contaminated Site Material Removal	18
02 61 Removal and Disposal of Contaminated Soils.....	18
02 65 Underground Storage Tank Removal	18
02 80 Facility Remediation	20
02 82 Asbestos Remediation	20
02 83 Lead Remediation	25
02 84 Polychlorinated Biphenyl Remediation	28
02 87 Bio-Hazard Material Remediation	29
02 89 Hazmat Ancillary Tasks and Support.....	32
<hr/>	
03 Concrete	1
03 01 Maintenance of Concrete	1
03 01 30 Maintenance of Cast-In-Place Concrete	1
03 05 Common Work Results For Concrete	2
03 05 13 Concrete Admixtures	3
03 10 Concrete Forming and Accessories	3
03 11 Concrete Forming	3
03 15 Concrete Accessories	6
03 20 Concrete Reinforcing.....	16
03 21 Reinforcement Bars	16
03 22 Fabric and Grid Reinforcing	45
03 30 Cast-In-Place Concrete	46
03 30 53 Miscellaneous Cast-in-Place Concrete	46
03 31 Structural Concrete	46
03 35 Concrete Finishing	62
03 37 Specialty Placed Concrete	65
03 39 Concrete Curing	66
03 40 Precast Concrete	66
03 48 Precast Concrete Specialties	66
03 50 Cast Decks and Underlayment.....	67
03 53 Concrete Topping	67

Table of Contents

03 54 Cast Underlayment.....	67
03 60 Grouting	67
03 61 Cementitious Grouting.....	67
03 62 Non-Shrink Grouting.....	67
03 63 Epoxy Grouting.....	68
03 64 Injection Grouting.....	68
03 80 Concrete Cutting and Boring.....	68
03 81 Concrete Cutting	68
03 82 Concrete Boring	69

04 Masonry 1

04 01 Maintenance of Masonry.....	1
04 01 20 Maintenance of Unit Masonry.....	1
04 01 50 Maintenance of Refractory Masonry	10
04 05 Common Work Results for Masonry	10
04 05 13 Masonry Mortaring	10
04 05 16 Masonry Grouting.....	10
04 05 19 Masonry Anchorage and Reinforcing	11
04 05 23 Masonry Accessories	36
04 20 Unit Masonry.....	38
04 21 Clay Unit Masonry	38
04 22 Concrete Unit Masonry.....	42
04 23 Glass Unit Masonry	46
04 40 Stone Assemblies	47
04 41 Dry-Placed Stone	47
04 42 Exterior Stone Cladding	47
04 43 Stone Masonry	47
04 50 Refractory Masonry.....	49
04 51 Flue Liner Masonry.....	49
04 70 Manufactured Masonry	50
04 72 Cast Stone Masonry.....	50

05 Metals 1

05 01 Maintenance of Metals.....	1
05 01 50 Maintenance of Metal Fabrications	1
05 01 70 Maintenance of Decorative Metal.....	1
05 05 Common Work Results for Metals	1
05 05 19 Post-Installed Concrete Anchors	1
05 05 21 Fastening Methods for Metal.....	12
05 05 23 Metal Fastenings	14
05 10 Structural Metal Framing.....	78
05 12 Structural Steel Framing.....	78
05 14 Structural Aluminum Framing.....	133
05 20 Metal Joists	134
05 21 Steel Joist Framing.....	134
05 30 Metal Decking	134
05 31 Steel Decking	134
05 36 Composite Metal Decking	138
05 40 Cold-Formed Metal Framing	141
05 41 Structural Metal Stud Framing.....	141
05 42 Cold-Formed Metal Joist Framing	142
05 43 Slotted Channel Framing.....	143
05 50 Metal Fabrications.....	144
05 51 Metal Stairs	144
05 52 Metal Railings	146
05 53 Metal Gratings	155
05 54 Metal Floor Plates	163
05 55 Metal Stair Treads and Nosings	163
05 58 Formed Metal Fabrications	164
05 59 Metal Specialties	166
05 70 Decorative Metal	166
05 73 Decorative Metal Railings.....	166
05 75 Decorative Formed Metal	167

06 Wood, Plastics, and Composites 1

06 01 Maintenance of Wood, Plastics, and Composites.....	1
--	---

Table of Contents

06 01 40 Maintenance of Architectural Woodwork	1
06 05 Common Work Results for Wood, Plastics, and Composites	1
06 05 23 Wood, Plastic, and Composite Fastenings	1
06 05 73 Wood Treatment	23
06 10 Rough Carpentry	23
06 11 Wood Framing	23
06 13 Heavy Timber Construction	28
06 16 Sheathing	30
06 17 Shop-Fabricated Structural Wood	35
06 18 Glued-Laminated Construction	40
06 20 Finish Carpentry	41
06 22 Millwork	41
06 40 Architectural Woodwork	43
06 41 Architectural Wood Casework	43
06 46 Wood Trim	57
06 50 Structural Plastics	59
06 51 Structural Plastic Shapes and Plates	59
06 53 Plastic Decking	64
06 60 Plastic Fabrications	64
06 65 Plastic Trim	64
06 70 Structural Composites	65
06 74 Composite Gratings	65
06 80 Composite Fabrications	68
06 81 Composite Railings	68
06 82 Composite Trim	68
06 83 Composite Paneling	70

07 Thermal And Moisture Protection

07 01 Operation and Maintenance of Thermal and Moisture Protection	1
07 01 50 Maintenance of Membrane Roofing	1
07 05 Common Work Results for Thermal and Moisture Protection	1
07 05 13 Mobilization Of Crew For Small Quantity Of Roof Work	1
07 10 Dampproofing and Waterproofing	1
07 11 Dampproofing	1
07 13 Sheet Waterproofing	2
07 14 Fluid-Applied Waterproofing	3
07 16 Cementitious and Reactive Waterproofing	4
07 17 Bentonite Waterproofing	4
07 19 Water Repellents	4
07 20 Thermal Protection	5
07 21 Thermal Insulation	5
07 22 Roof and Deck Insulation	16
07 24 Exterior Insulation and Finish Systems	43
07 25 Weather Barriers	46
07 26 Vapor Retarders	46
07 27 Air Barriers	46
07 30 Steep Slope Roofing	46
07 31 Shingles and Shakes	46
07 34 Roofing Underlayment	49
07 40 Roofing and Siding Panels	51
07 41 Roof Panels	51
07 42 Wall Panels	54
07 46 Siding	55
07 50 Membrane Roofing	58
07 51 Built-Up Bituminous Roofing	58
07 52 Modified Bituminous Membrane Roofing	64
07 53 Elastomeric Membrane Roofing	73
07 54 Thermoplastic Membrane Roofing	77
07 55 Protected Membrane Roofing	81
07 56 Fluid-Applied Roofing	81
07 58 Roll Roofing	81
07 59 Membrane Roofing Termination Bar	82
07 60 Flashing and Sheet Metal	82
07 62 Sheet Metal Flashing and Trim	82
07 63 Sheet Metal Roofing Specialties	87
07 65 Flexible Flashing	88
07 70 Roof and Wall Specialties and Accessories	88
07 71 Roof Specialties	88

Table of Contents

07 72 Roof Accessories	115
07 73 Roof Protection Board	168
07 76 Roof Pavers.....	169
07 80 Fire and Smoke Protection	170
07 81 Applied Fireproofing	170
07 84 Firestopping.....	170
07 90 Joint Protection	176
07 91 Preformed Joint Seals	176
07 92 Joint Sealants	179
07 95 Expansion Control	182

08 Openings 1

08 01 Operation and Maintenance of Openings	1
08 01 10 Operation and Maintenance of Doors and Frames	1
08 01 50 Operation and Maintenance of Windows	1
08 01 80 Maintenance of Glazing.....	1
08 05 Common Work Results for Openings	1
08 05 13 Door Options and Modifications	1
08 10 Doors and Frames	3
08 11 Metal Doors and Frames.....	3
08 12 Metal Frames	3
08 13 Metal Doors	22
08 14 Wood Doors	41
08 16 Composite Doors.....	100
08 30 Specialty Doors and Frames.....	105
08 31 Access Doors and Panels	105
08 33 Coiling Doors and Grilles.....	106
08 34 Special Function Doors	118
08 36 Panel Doors.....	127
08 40 Entrances, Storefronts, and Curtain Walls.....	135
08 42 Entrances	135
08 43 Storefronts	137
08 50 Windows	137
08 51 Metal Windows	137
08 52 Wood Windows	152
08 53 Plastic Windows	190
08 56 Special Function Windows	218
08 60 Roof Windows and Skylights	221
08 62 Unit Skylights.....	221
08 63 Metal-Framed Skylights.....	226
08 66 Wood-Framed Skylights	231
08 70 Hardware	232
08 71 Door Hardware	232
08 72 Weatherstripping, Thresholds and Seals	314
08 80 Glazing.....	326
08 81 Glass Glazing	326
08 83 Mirrors	339
08 84 Plastic Glazing.....	339
08 87 Glazing Surface Films	341
08 88 Special Function Glazing	342
08 90 Louvers and Vents	343
08 91 Louvers.....	343
08 95 Vents	375

09 Finishes 1

09 01 Maintenance of Finishes	1
09 01 20 Maintenance of Plaster and Gypsum Board.....	1
09 01 30 Maintenance of Tiling	1
09 01 60 Maintenance of Flooring	1
09 01 90 Maintenance of Painting and Coating	2
09 20 Plaster and Gypsum Board	6
09 22 Supports for Plaster and Gypsum Board.....	6
09 23 Gypsum Plastering	15
09 24 Cement Plastering	16
09 28 Backing Boards and Underlays	17
09 29 Gypsum Board	18
09 30 Tiling	25

Table of Contents

09 30 13 Ceramic Tiling	25
09 30 16 Quarry Tiling	27
09 31 Thin-Set Tiling	27
09 32 Mortar-Bed Tiling	27
09 34 Waterproofing-Membrane Tiling	28
09 35 Chemical-Resistant Tiling	28
09 39 Tiling Transitions	28
09 50 Ceilings	29
09 51 Acoustical Ceilings	29
09 53 Acoustical Ceiling Suspension Assemblies	49
09 57 Special Function Ceilings	52
09 60 Flooring	52
09 61 Flooring Treatment	52
09 63 Masonry Flooring	52
09 64 Wood Flooring	52
09 65 Resilient Flooring	56
09 66 Terrazzo Flooring	63
09 67 Fluid-Applied Flooring	66
09 68 Carpeting	67
09 69 Access Flooring	78
09 70 Wall Finishes	79
09 72 Wall Coverings	79
09 80 Acoustic Treatment	79
09 81 Acoustic Insulation	80
09 84 Acoustic Room Components	80
09 90 Painting and Coating	80
09 91 Painting	80
09 93 Staining and Transparent Finishing	184
09 96 High-Performance Coatings	186
09 97 Special Coatings	188

10 Specialties

10 01 Operation and Maintenance of Specialties	1
10 01 40 Operation and Maintenance of Safety Specialties	1
10 01 50 Operation and Maintenance of Storage Specialties	1
10 10 Information Specialties	1
10 11 Visual Display Units	1
10 13 Directories	8
10 14 Signage	11
10 20 Interior Specialties	36
10 21 Compartments and Cubicles	36
10 22 Partitions	55
10 26 Wall and Door Protection	58
10 28 Toilet, Bath, and Laundry Accessories	69
10 40 Safety Specialties	78
10 41 Emergency Access And Information Cabinets	78
10 44 Fire Protection Specialties	79
10 50 Storage Specialties	84
10 51 Lockers	84
10 70 Exterior Specialties	90
10 75 Flagpoles	90
10 80 Other Specialties	93
10 81 Pest Control Devices	93
10 86 Security Mirrors And Domes	94

11 Equipment

11 10 Vehicle and Pedestrian Equipment	1
11 13 Loading Dock Equipment	1
11 20 Commercial Equipment	4
11 28 Office Equipment	4
11 30 Residential Equipment	5
11 30 13 Residential Appliances	5
11 30 33 Retractable Stairs	8
11 40 Foodservice Equipment	9
11 48 Foodservice Cleaning and Disposal Equipment	9
11 50 Educational and Scientific Equipment	10
11 52 Audio-Visual Equipment	10

Table of Contents

11 53 Laboratory Equipment	16
11 70 Healthcare Equipment	16
11 71 Medical Sterilizing Equipment	16
11 72 Examination and Treatment Equipment	16
11 73 Patient Care Equipment	18
11 78 Mortuary Equipment	19
11 80 Facility Maintenance and Operation Equipment	20
11 81 Maintenance Equipment.....	20

12 Furnishings 1

12 01 Operation and Maintenance of Furnishings.....	1
12 01 60 Operation and Maintenance of Multiple Seating	1
12 20 Window Treatments	1
12 21 Window Blinds.....	1
12 22 Curtains and Drapes	1
12 24 Window Shades	3
12 30 Casework	3
12 31 Manufactured Metal Casework.....	3
12 35 Specialty Casework.....	8
12 36 Countertops.....	11
12 50 Furniture.....	13
12 56 Institutional Furniture	13
12 60 Multiple Seating	21
12 61 Fixed Audience Seating	21

13 Special Construction 1

13 20 Special Purpose Rooms	1
13 26 Fabricated Rooms	1
13 40 Integrated Construction.....	1
13 46 Lightning Protection Systems.....	1
13 47 Facility Protection	2
13 48 Sound, Vibration, and Seismic Control.....	3
13 49 Radiation Protection	4

14 Conveying Equipment 1

14 20 Elevators	1
14 21 Electric Traction Elevators.....	1
14 24 Hydraulic Elevators	3
14 26 Limited-Use/Limited-Application Elevators.....	8
14 27 Custom Elevator Cabs and Doors.....	8
14 28 Elevator Equipment and Controls.....	8
14 40 Lifts	9
14 42 Wheelchair Lifts.....	9

21 Fire Suppression 1

21 01 Operation and Maintenance of Fire Suppression	1
21 01 10 Operation and Maintenance of Water-Based Fire-Suppression Systems.....	1
21 01 30 Operation and Maintenance of Fire-Suppression Equipment	1
21 05 Common Work Results for Fire Suppression.....	1
21 05 13 Common Motor Requirements for Fire-Suppression Equipment	1
21 05 16 Expansion Fittings and Loops for Fire-Suppression Piping.....	1
21 05 17 Sleeves and Sleeve Seals for Fire-Suppression Piping	2
21 05 19 Meters and Gages for Fire-Suppression Systems	2
21 05 23 General-Duty Valves for Water-Based Fire-Suppression Piping.....	2
21 05 29 Hangers and Supports for Fire-Suppression Piping and Equipment.....	2
21 05 33 Heat Tracing for Fire-Suppression Piping	2
21 05 48 Vibration and Seismic Controls for Fire-Suppresion Piping and Equipment	2
21 05 53 Identification for Fire-Suppression Piping and Equipment	2
21 07 Fire-Suppression Systems Insulation	2
21 07 16 Fire-Suppression Equipment Insulation	2
21 07 19 Fire-Suppression Piping Insulation.....	2
21 10 Water-Based Fire-Suppression Systems.....	2
21 11 Facility Fire-Suppression Water-Service Piping	2
21 12 Fire-Suppression Standpipes	3
21 13 Fire-Suppression Sprinkler Systems	4

Table of Contents

21 20 Fire-Extinguishing Systems	32
21 21 Carbon-Dioxide Fire-Extinguishing Systems	32
21 22 Clean-Agent Fire-Extinguishing Systems	32
21 23 Wet-Chemical Fire-Extinguishing Systems	40
21 24 Dry-Chemical Fire-Extinguishing Systems	43
21 30 Fire Pumps	46
21 31 Centrifugal Fire Pumps	46
21 34 Fire Pump Accessories	46

22 Plumbing

22 01 Operation and Maintenance of Plumbing	1
22 01 10 Operation and Maintenance of Plumbing Piping and Pumps	1
22 01 40 Operation and Maintenance of Plumbing Fixtures	1
22 05 Common Work Results for Plumbing	2
22 05 13 Common Motor Requirements for Plumbing Equipment	2
22 05 16 Expansion Fittings and Loops for Plumbing Piping	2
22 05 17 Sleeves and Sleeve Seals for Plumbing Piping	2
22 05 19 Meters and Gages for Plumbing Piping	2
22 05 23 General-Duty Valves for Plumbing Piping	2
22 05 29 Hangers and Supports for Plumbing Piping and Equipment	5
22 05 33 Heat Tracing for Plumbing Piping	5
22 05 48 Vibration and Seismic Controls for Plumbing Piping and Equipment	5
22 05 53 Identification for Plumbing Piping and Equipment	5
22 05 76 Facility Drainage Piping Cleanouts	5
22 07 Plumbing Insulation	8
22 07 16 Plumbing Equipment Insulation	8
22 07 19 Plumbing Piping Insulation	8
22 10 Plumbing Piping	37
22 11 Facility Water Distribution	37
22 12 Facility Potable-Water Storage Tanks	103
22 13 Facility Sanitary Sewerage	104
22 14 Facility Storm Drainage	152
22 15 General Service Compressed-Air Systems	161
22 30 Plumbing Equipment	166
22 32 Domestic Water Filtration Equipment	166
22 33 Electric Domestic Water Heaters	168
22 34 Fuel-Fired Domestic Water Heaters	172
22 35 Domestic Water Heat Exchangers	176
22 40 Plumbing Fixtures	176
22 41 Residential Plumbing Fixtures	177
22 42 Commercial Plumbing Fixtures	177
22 43 Healthcare Plumbing Fixtures	189
22 45 Emergency Plumbing Fixtures	191
22 46 Security Plumbing Fixtures	194
22 47 Drinking Fountains and Water Coolers	195
22 60 Gas and Vacuum Systems for Laboratory and Healthcare Facilities	198
22 63 Gas Systems for Laboratory and Healthcare Facilities	198
22 66 Chemical-Waste Systems for Laboratory and Healthcare Facilities	200

23 Heating, Ventilating, and Air-Conditioning (HVAC)

23 01 Operation and Maintenance of HVAC Systems	1
23 01 10 Operation and Maintenance of Facility Fuel Systems	1
23 01 20 Operation and Maintenance of HVAC Piping and Pumps	1
23 01 30 Operation and Maintenance of HVAC Air Distribution	4
23 01 50 Operation and Maintenance of Central Heating Equipment	4
23 01 60 Operation and Maintenance of Central Cooling Equipment	5
23 05 Common Work Results for HVAC	5
23 05 13 Common Motor Requirements for HVAC Equipment	5
23 05 16 Expansion Fittings and Loops for HVAC Piping	8
23 05 17 Sleeves and Sleeve Seals for HVAC Piping	9
23 05 19 Meters and Gages for HVAC Piping	10
23 05 23 General-Duty Valves For HVAC Piping	13
23 05 29 Hangers and Supports for HVAC Piping and Equipment	32
23 05 33 Heat Tracing for HVAC Piping	57
23 05 48 Vibration and Seismic Controls for HVAC	57
23 05 53 Identification for HVAC Piping and Equipment	61
23 05 66 Anti-Microbial Ultraviolet Emitters for HVAC Ducts and Equipment	61

Table of Contents

23 05 93 Testing, Adjusting, and Balancing for HVAC	63
23 07 HVAC Insulation.....	66
23 07 13 Duct Insulation.....	66
23 07 16 HVAC Equipment Insulation.....	67
23 07 19 HVAC Piping Insulation	68
23 08 Commissioning of HVAC	72
23 09 Instrumentation and Control for HVAC	72
23 09 23 Direct-Digital Control System for HVAC	72
23 09 43 Pneumatic Control System For HVAC	88
23 10 Facility Fuel Systems	89
23 11 Facility Fuel Piping	89
23 12 Facility Fuel Pumps	101
23 13 Facility Fuel-Storage Tanks.....	102
23 20 HVAC Piping and Pumps.....	110
23 21 Hydronic Piping and Pumps	110
23 22 Steam and Condensate Piping and Pumps	195
23 23 Refrigerant Piping.....	200
23 25 HVAC Water Treatment	205
23 30 HVAC Air Distribution.....	205
23 31 HVAC Ducts and Casings	205
23 33 Air Duct Accessories	238
23 34 HVAC Fans	284
23 36 Air Terminal Units.....	296
23 37 Air Outlets and Inlets	299
23 40 HVAC Air Cleaning Devices.....	309
23 41 Particulate Air Filtration	309
23 42 Gas-Phase Air Filtration	312
23 43 Electronic Air Cleaners.....	312
23 50 Central Heating Equipment.....	314
23 51 Breechings, Chimneys, and Stacks.....	314
23 52 Heating Boilers	335
23 53 Heating Boiler Feedwater Equipment.....	353
23 54 Furnaces	354
23 55 Fuel-Fired Heaters	357
23 57 Heat Exchangers for HVAC	359
23 60 Central Cooling Equipment.....	361
23 61 Refrigerant Compressors	361
23 62 Packaged Compressor and Condenser Units	362
23 63 Refrigerant Condensers	363
23 64 Packaged Water Chillers.....	365
23 65 Cooling Towers	369
23 70 Central HVAC Equipment.....	373
23 71 Thermal Storage.....	373
23 72 Air-To-Air Energy Recovery Equipment	373
23 73 Indoor Central-Station Air-Handling Units	373
23 74 Packaged Outdoor HVAC Equipment	392
23 80 Decentralized Unitary HVAC Equipment	397
23 81 Decentralized Unitary HVAC Equipment	397
23 82 Convection Heating and Cooling Units.....	408
23 83 Radiant Heating Units	423
23 84 Humidity Control Equipment.....	424

25 Integrated Automation 1

25 50 Integrated Automation Facility Controls	1
25 55 Integrated Automation Control of HVAC	1

26 Electrical 1

26 01 Operation and Maintenance of Electrical Systems	1
26 01 20 Operation and Maintenance of Low-Voltage Electrical Distribution	1
26 01 50 Operation and Maintenance of Lighting	1
26 05 Common Work Results for Electrical	26
26 05 13 Medium-Voltage Cables	26
26 05 19 Low-Voltage Electrical Power Conductors and Cables	31
26 05 23 Control-Voltage Electrical Power Cables	47
26 05 26 Grounding and Bonding for Electrical Systems.....	47
26 05 29 Hangers and Supports for Electrical Systems.....	52
26 05 33 Raceway and Boxes for Electrical Systems.....	73

Table of Contents

26 05 39 Underfloor Raceways for Electrical Systems	300
26 05 53 Identification for Electrical Systems	302
26 05 83 Wiring Connections	302
26 09 Instrumentation and Control for Electrical Systems	305
26 09 23 Lighting Control Devices	305
26 10 Medium-Voltage Electrical Distribution	328
26 12 Medium-Voltage Transformers	328
26 18 Medium-Voltage Circuit Protection Devices	331
26 20 Low-Voltage Electrical Distribution	331
26 21 Low-Voltage Electrical Service Entrance	331
26 22 Low-Voltage Transformers	332
26 24 Switchboards and Panelboards	340
26 25 Enclosed Bus Assemblies	384
26 27 Low-Voltage Distribution Equipment	387
26 28 Low-Voltage Circuit Protective Devices	404
26 29 Low-Voltage Controllers	433
26 30 Facility Electrical Power Generating and Storing Equipment	450
26 31 Photovoltaic Collectors	450
26 32 Packaged Generator Assemblies	454
26 33 Battery Equipment	459
26 35 Power Filters and Conditioners	461
26 36 Transfer Switches	462
26 40 Electrical And Cathodic Protection	466
26 43 Surge Protective Devices	466
26 50 Lighting	470
26 51 Interior Lighting	470
26 52 Safety Lighting	515
26 55 Special Purpose Lighting	519
26 56 Exterior Lighting	529

27 Communications

27 05 Common Work Results for Communications	1
27 05 26 Grounding and Bonding for Communications Systems	1
27 05 29 Hangers and Supports for Communications Systems	1
27 05 33 Conduits and Backboxes for Communications Systems	4
27 05 39 Surface Raceways for Communications Systems	4
27 05 53 Identification for Communications Systems	4
27 10 Structured Cabling	4
27 11 Communications Equipment Room Fittings	4
27 13 Communications Backbone Cabling	10
27 15 Communications Horizontal Cabling	12
27 16 Communications Connecting Cords, Devices, and Adapters	53
27 20 Data Communications	55
27 21 Data Communications Network Equipment	55
27 30 Voice Communications	56
27 32 Voice Communications Terminal Equipment	56
27 50 Distributed Communications and Monitoring Systems	57
27 51 Distributed Audio-Video Communications Systems	57
27 52 Healthcare Communications and Monitoring Systems	57
27 53 Distributed Systems	58

28 Electronic Safety and Security

28 05 Common Work Results for Electronic Safety and Security	1
28 05 26 Grounding and Bonding for Electronic Safety and Security	1
28 05 53 Identification for Electronic Safety and Security	1
28 10 Access Control	1
28 15 Integrated Access Control Hardware Devices	1
28 16 Access Control Interfaces	1
28 20 Video Surveillance	7
28 21 Surveillance Cameras	7
28 40 Life Safety	25
28 42 Gas Detection and Alarm	25
28 46 Fire Detection and Alarm	26
28 47 Mass Notification	70
28 49 Electronic Personal Protection Systems	70

Table of Contents

31 Earthwork	1
31 05 Common Work Results for Earthwork.....	1
31 05 13 Soils for Earthwork	1
31 05 16 Aggregates for Earthwork.....	1
31 10 Site Clearing	5
31 13 Selective Tree and Shrub Removal and Trimming.....	5
31 20 Earth Moving.....	6
31 22 Grading.....	6
31 23 Excavation and Fill	6
31 24 Embankments	10
31 25 Erosion and Sedimentation Controls.....	11
31 30 Earthwork Methods.....	15
31 32 Soil Stabilization	15
31 35 Slope Protection	17
31 36 Gabions	17
31 37 Riprap	17
31 40 Shoring and Underpinning	17
31 41 Shoring	18
31 43 Concrete Raising	18
32 Exterior Improvements	1
32 01 Operation and Maintenance of Exterior Improvements	1
32 01 11 Paving Cleaning	1
32 01 13 Flexible Paving Surface Treatment	1
32 01 16 Flexible Paving Rehabilitation	2
32 01 17 Flexible Paving Repair	2
32 01 26 Rigid Paving Rehabilitation	4
32 01 29 Rigid Paving Repair.....	4
32 01 90 Operation and Maintenance of Planting	5
32 10 Bases, Ballasts, and Paving	7
32 11 Base Courses	7
32 12 Flexible Paving	8
32 13 Rigid Paving	10
32 14 Unit Paving	14
32 16 Curbs, Gutters, Sidewalks, and Driveways	17
32 17 Paving Specialties	22
32 18 Athletic and Recreational Surfacing	30
32 30 Site Improvements	32
32 31 Fences and Gates	32
32 32 Retaining Walls	104
32 39 Manufactured Site Specialties	105
32 90 Planting	107
32 91 Planting Preparation	107
32 92 Turf and Grasses	110
32 93 Plants	112
32 94 Planting Accessories	143
32 96 Transplanting.....	146
33 Utilities	1
33 01 Operation and Maintenance of Utilities	1
33 01 10 Operation and Maintenance of Water Utilities.....	1
33 01 30 Operation and Maintenance of Sewer Utilities	2
33 01 70 Operation and Maintenance of Electrical Utilities.....	7
33 05 Common Work Results for Utilities	9
33 05 09 Piping Specials for Utilities	9
33 05 16 Cast-Iron Utility Pipe.....	9
33 05 17 Copper Utility Pipe and Tubing	9
33 05 19 Ductile-Iron Utility Pipe	9
33 05 24 Steel Utility Pipe	9
33 05 27 Corrugated Metal Utility Pipe.....	9
33 05 31 Thermoplastic Utility Pipe	9
33 05 33 Polyethylene Utility Pipe	9
33 05 39 Concrete Pipe	10
33 05 41 Vitrified Clay Utility Pipe	10
33 05 97 Identification and Signage for Utilities	10
33 10 Water Utilities.....	11