

Commentary on Proposed Revisions to UniFormat

Development Draft 3 for Public Review and Comment – February 11, 2010

The commentary period on this draft for public review and comment will close March 19, 2010.

To submit commentary, email your comments to gceton@csinet.org or post your comment in the [UniFormat forum](#) on CSINet. Include the words “UniFormat Draft Comments” in the subject line of your email or forum thread. All comments will be considered by the task team in their revision of these drafts.

About *UniFormat*

UniFormat is a method of arranging construction information based on the physical parts or “elements” of a facility characterized by their functions, without regard to the materials and methods used to accomplish them. The functional elements are often referred to as “assemblies” or “systems.”

UniFormat contains not only the functional elements but goes on to list components of the functional elements at the lower levels. The demarcation between a functional element and a component can be imprecise since the components also have supplementary functions. This draft of proposed revisions to ***UniFormat*** includes listings of components.

UniFormat includes more than physical function elements in order to fulfill the purposes for which it is used: cost estimating, time schedules, preliminary project descriptions, among others. Other activities associated with the construction project that affect costs and time schedules are included. For instance, the excavation activities required for substructure elements are included even though the “excavation” is not a physical element.

When revised, ***UniFormat*** will be used as the basis for Table 21 – Elements of the ***OmniClass*** system of tables just as ***MasterFormat*** is used as the basis for ***OmniClass*** Table 22 – Work Results. Some non-elemental content in ***UniFormat*** will not be included in Table 21 in ***OmniClass*** just as some content in ***MasterFormat*** is not included in Table 22.

The draft of proposed revisions to ***UniFormat*** is generally restricted to building type construction just as the current ***UniFormat*** is although there some subjects included beyond building construction. It is planned to expand ***UniFormat*** to all types of construction but not in the next published version. That task will be accomplished in a latter edition of ***UniFormat***.

The revised edition of ***UniFormat*** is currently scheduled to be available from CSI and CSC in May 2010. An additional development effort to expand ***UniFormat*** content beyond building construction will commence after that publication.

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Chair, UniFormat Task Team
February 11, 2010

Format of Revisions to *UniFormat* Draft

MasterFormat Numbers: Corresponding *MasterFormat 2004* numbers are included at the far right.

Explanations: The current *UniFormat* includes explanations to expand on subjects included and where to find related subjects. This type of information is not included in the draft of proposed revisions to *UniFormat* but will be included in the next published version of *UniFormat*.

Related Activities: In some locations related activities have been put in separate categories to differentiate them from physical elements. A90 Substructure Related Activities is an example.

Supplementary Components: In some locations supplementary components has been added as a subcategory for components of a functional element which are often required but are not a primary component of the functional assembly or system. Floor Construction Supplementary Components under B1010 Floor Construction is an example.

Specific Revisions to *UniFormat* Draft 3 from Draft 2

INTRODUCTION

- Title changed from PROJECT DESCRIPTION to INTRODUCTION.
- Numbering changed to parallel portions of MasterFormat that deal with this subject matter.
- Proposal, Bidding, and Contracting re-titled to Procurement Requirements and Contracting Requirements.
- General Requirements moved to this location from Element Z.

ELEMENT A - SUBSTRUCTURE

- Title changed back to SUBSTRUCTURE from "STRUCTURE" in Draft 2.
- Contents generally restructured to reflect that change.
- Basement Construction re-titled Subgrade Enclosure.
- Water and Gas Mitigation moved to A60 from A1070.
- Substructure Related Activities moved to A90 from A1090.
- A2050 Special Structures returned to Element F.

ELEMENT B - SHELL

- B10 Superstructure returned to Element B from its location in Element A in Draft 2.
- Stairs moved from their location in Draft 2 – A2080 – to B1080. They remain relocated from Element C since they are structural element.
- B2080 Overhead Exterior Enclosures moved to B3080.

ELEMENT D - SERVICES

- Contents of D20 PLUMBING, D30 HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) D40 FIRE PROTECTION, and D50 ELECTRICAL have been simplified.
- Title of D30 has been changed from HVAC to HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)
- Fire Alarms have been moved from D40 FIRE PROTECTION to D7050 Detection and Alarm Systems
- D5010 Facility Power Generation has been added to D50 ELECTRICAL

ELEMENT F – SPECIAL CONSTRUCTION AND DECONSTRUCTION

- Special Structures returned to F.

ELEMENT Z – PROJECT COSTS

- Title changed to PROJECT COSTS to more accurately reflect intended contents.
- Contents reorganized to reflect cost intent of Element Z.

INTRODUCTION**INTRODUCTORY INFORMATION****00 01 00 Project Program**

00 01 11 Site Program

00 01 12 Facility Program

00 03 00 Summary

00 03 11 Summary of Work

00 03 12 Multiple Contract Summary

00 03 14 Work Restrictions

00 03 18 Project Utility Sources

00 05 00 Project Criteria

00 05 11 Zoning Requirements

00 05 12 Planned Unit Development Requirements

00 05 21 Code Analysis

00 05 31 Design Loads

00 05 41 Sustainable Design Requirements

00 05 42 Facility Environmental Requirements

00 05 43 Indoor Air Quality Requirements

00 05 51 Historic Restoration Requirements

PROCUREMENT REQUIREMENTS**00 07 00 Project Delivery**

00 07 10 Project Delivery Method

00 07 11 Design-Bid Build

00 07 12 Design-Negotiate Build

00 07 13 Construction Management

00 07 13.01 Construction Manager as Agent or Advisor (CMA)

00 07 13.02 Construction Manager as Contractor (CMc)

00 07 14 Design-Build

00 07 14.01 Standard

00 07 14.02 Bridging

00 07 15 Owner-Build

00 07 16 Integrated Project Delivery

00 07 16.01 Project Alliances

00 07 16.02 Single Purposed Entities

00 07 16.03 Relational Contracts

00 07 20 Number of Construction Contracts

00 07 21 Single Contract

00 07 22 Multiple Contracts

00 07 30 Methods of Payment

00 07 31 Stipulated Sum

00 07 32 Unit Price

00 07 33 Cost Plus a Fee

00 07 34 Cost Plus a Fee with a Guaranteed Maximum Price (GMP)

00 10 00 Solicitation

00 11 00 Advertisements and Invitations

00 20 00	Instructions for Procurement
00 21 00	Instructions
00 22 00	Supplementary Instructions
00 23 00	Procurement Definitions
00 24 00	Procurement Scopes
00 25 00	Procurement Meetings
00 26 00	Procurement Substitution Procedures
00 30 00	Available Information
00 31 00	Available Project Information
00 31 13	Preliminary Schedules
00 31 16	Project Budget Information
00 31 19	Existing Condition Information
00 31 21	Survey Information
00 31 24	Environmental Assessment Information
00 31 25	Existing Material Information
00 31 26	Existing Hazardous Material Information
00 31 31	Geophysical Data
00 31 32	Geotechnical Data
00 31 43	Permit Application
00 40 00	Procurement Forms and Supplements
00 41 00	Bid Forms
00 42 00	Proposal Forms
00 43 00	Procurement Form Supplements
00 45 00	Representations and Certifications
CONTRACTING REQUIREMENTS	
00 50 00	Contracting Forms and Supplements
00 51 00	Notice of Award
00 52 00	Agreement Forms
00 54 00	Agreement Form Supplements
00 55 00	Notice to Proceed
00 60 00	Project Forms
00 61 00	Bond Forms
00 62 00	Certificates and Other Forms
00 63 00	Clarification and Modification Forms
00 65 00	Closeout Forms
00 70 00	Conditions of the Contract
00 71 00	Contracting Definitions
00 72 00	General Conditions
00 73 00	Supplementary Conditions
00 90 00	Revisions, Clarifications, and Modifications
00 91 00	Precontract Revisions
00 93 00	Record Clarifications and Proposals
00 94 00	Record Modifications

GENERAL REQUIREMENTS

- 01 20 00 Price and Payment Procedures**
 - 01 21 00 Allowances
 - 01 22 00 Unit Prices
 - 01 23 00 Alternates
 - 01 24 00 Value Analysis
 - 01 25 00 Substitution Procedures
 - 01 26 00 Contract Modification Procedures
 - 01 29 00 Payment Procedures

- 01 30 00 Administrative Requirements**
 - 01 31 00 Project Management and Coordination
 - 01 32 00 Construction Progress Documentation
 - 01 33 00 Submittal Procedures
 - 01 35 00 Special Procedures

- 01 40 00 Quality Requirements**
 - 01 41 00 Regulatory Requirements
 - 01 42 00 References
 - 01 43 00 Quality Assurance
 - 01 45 00 Quality Control

- 01 50 00 Temporary Facilities and Controls**
 - 01 51 00 Temporary Utilities
 - 01 52 00 Construction Facilities
 - 01 53 00 Temporary Construction
 - 01 54 00 Construction Aids
 - 01 55 00 Vehicular Access and Parking
 - 01 56 00 Temporary Barriers and Enclosures
 - 01 57 00 Temporary Controls
 - 01 58 00 Project Identification

- 01 60 00 Product Requirements**
 - 01 61 00 Common Product Requirements
 - 01 62 00 Product Options
 - 01 64 00 Owner-Furnished Products
 - 01 65 00 Product Delivery Requirements
 - 01 66 00 Product Storage and Handling Requirements

- 01 70 00 Execution and Closeout Requirements**
 - 01 71 00 Examination and Preparation
 - 01 73 00 Execution
 - 01 74 00 Cleaning and Waste Management
 - 01 75 00 Starting and Adjusting
 - 01 76 00 Protecting Installed Construction
 - 01 77 00 Closeout procedures
 - 01 78 00 Closeout Submittals
 - 01 79 00 Demonstration and Training

- 01 90 00 Life Cycle Activities**
 - 01 91 00 Commissioning
 - 01 92 00 Facility Operation
 - 01 93 00 Facility Maintenance
 - 01 94 00 Facility Decommissioning

A	SUBSTRUCTURE	
A10	FOUNDATIONS	
	Standard Foundations	
	Wall Foundations	
	Continuous Footings	
	Foundation Walls	
	Column Foundations	
	Spread Footings	
	Column Piers	
	Special Foundations	31 60 00
	Driven Piles	31 62 00
	Bored/Augured Piles	31 63 00
	Caissons	31 64 00
	Special Foundation Walls	31 66 16
	Foundation Anchors	31 68 00
	Underpinning	31 48 00
	Raft Foundations	
	Pile Caps	
	Grade Beams	
A20	SUBGRADE ENCLOSURES	
	Walls for Subgrade Enclosures	
	Subgrade Enclosure Wall Construction	
	Subgrade Enclosure Wall Interior Finish	
	Subgrade Enclosure Wall Supplementary Components	
	Subgrade Enclosure Wall Dampproofing	07 11 00
	Subgrade Enclosure Wall Waterproofing	07 10 00
	Subgrade Enclosure Wall Insulation	07 20 00
	Subgrade Enclosure Wall Vapor Retarders	07 26 00
A40	SLABS-ON-GRADE	
	Standard Slabs-on-Grade	
	Structural Slabs-on-Grade	
	Slab Trenches	
	Pits and Bases	
	Slab-On-Grade Supplementary Components	
	Perimeter Insulation	07 21 00
	Vapor Retarder	07 26 00
	Waterproofing	07 10 00
	Mud Slab	03 30 00
	Subbase Layer	31 23 23
A60	WATER AND GAS MITIGATION	
	Subdrainage Systems	33 46 00
	Perimeter Subdrainage	33 46 13
	Underslab Subdrainage	33 46 19
	Off-Gassing Mitigation	31 21 00
	Radon Mitigation	31 21 13
	Methane Mitigation	31 21 16
A90	SUBSTRUCTURE RELATED ACTIVITIES	
	Substructure Excavation	31 23 16
	Backfill and Compaction	31 23 23
	Construction Dewatering	31 23 19
	Excavation Support Systems	31 50 00
	Anchor Tiebacks	31 51 00

Cofferdams	31 52 00
Cribbing and Walers	31 53 00
Ground Freezing	31 54 00
Slurry Walls	31 56 00

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B SHELL**B10 SUPERSTRUCTURE****B1010 Floor Construction**

Floor Structural Frame	
Columns Supporting Floors	
Floor Girders and Beams	
Floor Trusses	
Floor Joists	
Floor Decks, Slabs, and Toppings	
Balcony Floor Construction	
Mezzanine Construction	
Modular Mezzanines	13 44 00
Ramps	
Floor Construction Supplementary Components	
Floor Construction Vapor Retarders	07 26 00
Floor Construction Air Barriers	07 27 00
Floor Construction Insulation	07 20 00
Floor Construction Fireproofing	07 80 00
Floor Construction Firestopping	07 84 00
Floor Construction Expansion Control	07 95 00

B1020 Roof Construction

Roof Structural Frame	
Columns Supporting Roofs	
Roof Girders and Beams	
Roof Trusses	
Roof Joists	
Roof Decks, Slabs, and Sheathing	
Canopies	10 73 16
Roof Construction Supplementary Components	
Roof Construction Vapor Retarders	07 26 00
Roof Construction Air Barriers	07 27 00
Roof Construction Insulation	07 20 00
Roof Construction Fireproofing	07 80 00
Roof Construction Firestopping	07 84 00
Roof Construction Expansion Control	07 95 00

B1080 Stairs

Stair Construction	05 51 00, 05 71 00, 06 43 00
Stair Soffits	
Stair Railings	05 52 00, 05 73 00, 06 43 00

B20 EXTERIOR VERTICAL ENCLOSURES**B2010 Exterior Enclosure Walls**

Exterior Wall Exterior Veneer	
Exterior Wall Construction	
Exterior Wall Interior Finish	
Manufactured/Fabricated Wall Assemblies	
Curtain Wall Assemblies	08 44 00
Panelized Wall Assemblies	
Parapets	
Exterior Wall Supplementary Components	
Exterior Wall Weather Barriers	07 25 00
Exterior Wall Vapor Retarders	07 26 00
Exterior Wall Air Barriers	07 27 00

	Exterior Wall Insulation	07 20 00
	Exterior Wall Expansion Joints	07 95 00
	Exterior Wall Opening Supplementary Components	
	Exterior Wall Opening Lintels	
	Exterior Wall Opening Joint Sealants	07 92 00
	Exterior Wall Opening Flashing	07 60 00
	Exterior Wall Opening Sills	
B2020	Exterior Windows	
	Exterior Operating Windows	08 50 00
	Exterior Fixed Windows and Window Wall Systems	08 43 00
	Exterior Special Function Windows	08 56 00
	Exterior Pass Windows	08 56 19
	Exterior Radio-Frequency-Interference Shielding Windows	08 56 46
	Exterior Radiation Shielding Windows	08 56 49
	Exterior Security Windows	08 56 53
	Exterior Detention Windows	08 56 63
	Exterior Sound Control Windows	08 56 73
	Exterior Window Supplementary Components	
	Exterior Window Hardware	08 75 00
	Exterior Window Glazing	08 80 00
B2050	Exterior Doors and Grilles	
	Exterior Entrance Doors	08 42 00
	Exterior Utility Doors	08 10 00
	Exterior Oversize Doors	
	Exterior Coiling Doors	08 33 00
	Exterior Panel Doors	08 36 00
	Exterior Sectional Doors	08 36 13
	Exterior Single-Panel Doors	08 36 16
	Exterior Multi-Leaf Vertical Lift Doors	08 36 19
	Exterior Telescoping Vertical Lift Doors	08 36 23
	Hangar Doors	08 34 16
	Exterior Special Function Doors	08 30 00
	Exterior Cold Storage Doors	08 34 13
	Exterior Industrial Doors	08 34 19
	Exterior Radio-Frequency-Interference Shielding Doors	08 34 46
	Exterior Radiation Shielding Doors	08 34 49
	Exterior Security Doors	08 34 53
	Exterior Detention Doors	08 34 63
	Exterior Traffic Doors	08 38 00
	Exterior Pressure-Resistant Doors	08 39 00
	Exterior Grilles	
	Exterior Coiling Grilles	08 33 00
	Exterior Folding Grilles	08 35 16
	Exterior Gates	
	Exterior Door Supplementary Components	
	Exterior Door Frames	08 10 00, 08 30 00
	Exterior Door Hardware	08 70 00
	Exterior Door Glazing	08 80 00
	Exterior Door Louvers	08 91 26
B2070	Exterior Louvers and Vents	08 90 00
	Exterior Louvers	08 91 00
	Exterior Louvered Equipment Enclosures	08 92 00
	Exterior Vents	08 95 00
B2080	Exterior Wall Appurtenances	

Exterior Grilles and Screens	10 82 13
Exterior Protection Devices for Openings	10 71 00, 10 73 00
Exterior Sun Control Devices	10 71 13
Storm Panels	10 71 16
Awnings	10 73 13
Exterior Balcony Walls and Railings	05 52 00, 05 73 00
Exterior Wall Specialties	10 74 00
B30	EXTERIOR HORIZONTAL ENCLOSURES
B3010	Roofing
Steep Slope Roofing	07 30 00
Roofing Shingles	07 31 00
Roofing Tiles	07 32 00
Sheet Metal Roofing	07 41 00, 07 61 00
Low-Slope Roofing	07 50 00
Low-Slope Roofing Membrane	07 50 00
Low-Slope Roofing Cover	07 50 00
Roofing Ballast	07 76 13
Roofing Gravel	
Roofing Pavers	07 76 13
Roofing Coatings	
Roofing Vegetation	07 55 63
Roofing Supplementary Components	
Roofing Substrate Board	
Roofing Deck Vapor Retarder	07 26 00
Roofing Air Barriers	07 27 00
Roofing Deck Insulation	07 20 00
Roofing Flashing and Sheet Metal	07 60 00
Roofing Expansion Joints	07 71 29
B3020	Roof Appurtenances
Roof Accessories	07 72 00
Roof Curbs	07 72 13
Relief Vents	07 72 23
Ridge Vents	07 72 26
Roof Walkways	07 72 46
Roof Ladders	05 51 33
Snow Guards	07 72 53
Roof Specialties	10 74 00
Cupolas	10 74 23
Spires	10 74 26
Steeple	10 74 29
Weathervanes	10 74 33
Rain Water Management	
B3040	Traffic Bearing Horizontal Enclosures
Traffic Bearing Coatings	07 18 00
Horizontal Waterproofing Membrane	07 10 00
Wear Surfaces	
Rigid Pavement	32 13 00
Unit Pavers	32 14 00
Horizontal Enclosure Supplementary Components	
Horizontal Enclosure Substrate Board	
Horizontal Enclosure Deck Vapor Retarder	07 26 00
Horizontal Enclosure Deck Insulation	07 20 00
Horizontal Enclosure Flashing and Sheet Metal	07 60 00
Horizontal Enclosure Expansion Joints	07 71 29

B3060 Horizontal Openings

Roof Windows and Skylights	08 60 00
Roof Windows	08 61 00
Unit Skylights	08 62 00
Framed Skylights	08 63 00, 08 64 00
Vents and Hatches	
Roof Hatches	07 72 33
Smoke Vents	07 72 36
Horizontal Opening Supplementary Components	
Horizontal Opening Frames	
Horizontal Opening Hardware	08 70 00
Horizontal Opening Glazing	08 80 00
Horizontal Opening Flashing	07 60 00
Horizontal Opening Joint Sealants	07 92 00

B3080 Overhead Exterior Enclosures

- Exterior Ceilings
- Exterior Soffits
- Exterior Bulkheads

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C INTERIORS**C10 INTERIOR CONSTRUCTION****C1010 Interior Partitions**

Interior Fixed Partitions	
Interior Glazed Partitions	08 43 00
Interior Demountable Partitions	10 22 19
Interior Operable Partitions	10 22 26
Interior Screens	05 52 00, 05 73 00, 10 22 23, 10 82 23
Interior Partition Supplementary Components	
Interior Partition Sound Isolation Components	
Interior Partition Firestopping	07 84 00

C1020 Interior Windows

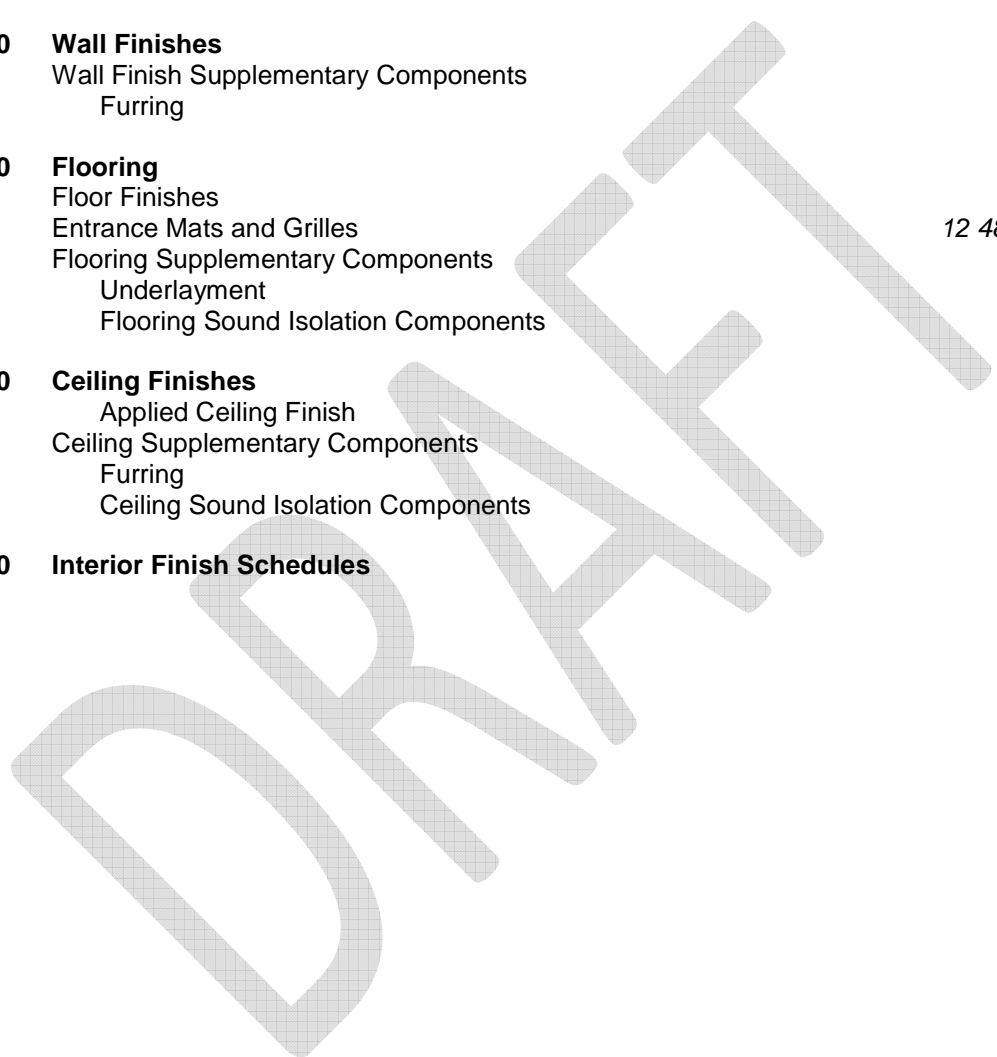
	08 12 00, 08 50 00
Interior Operating Windows	08 50 00
Interior Fixed Windows	
Interior Special Function Windows	08 56 00
Interior Pass Windows	08 56 19
Interior Radio-Frequency-Interference Shielding Windows	08 56 46
Interior Radiation Shielding Windows	08 56 49
Interior Security Windows	08 56 53
Interior Detention Windows	08 56 63
Interior Sound Control Windows	08 56 73
Interior Window Supplementary Components	
Interior Window Opening Lintels	
Interior Window Frames and Sills	
Interior Window Hardware	08 75 00
Interior Window Glazing	08 80 00

C1030 Interior Doors and Grilles

	08 10 00
Interior Swinging Doors	
Interior Sliding Doors	08 11 73
Interior Folding Doors	08 35 00
Interior Coiling Doors	08 33 00
Interior Panel Doors	08 36 00
Interior Sectional Doors	08 36 13
Interior Single-Panel Doors	08 36 16
Interior Multi-Leaf Vertical Lift Doors	08 36 19
Interior Telescoping Vertical Lift Doors	08 36 23
Interior Special Function Doors	08 30 00
Interior Cold Storage Doors	08 34 13
Interior Industrial Doors	08 34 19
Interior Lightproof Doors	08 34 33
Interior Darkroom Doors	08 34 36
Interior Radio-Frequency-Interference Shielding Doors	08 34 46
Interior Radiation Shielding Doors	08 34 49
Interior Security Doors	08 34 53
Interior Vault Doors	08 34 59
Interior Detention Doors	08 34 63
Interior Sound Control Doors	08 34 73
Interior Traffic Doors	08 38 00
Interior Pressure-Resistant Doors	08 39 00
Interior Door Supplementary Components	
Interior Door Opening Lintels	
Interior Door Frames	08 10 00, 08 30 00
Interior Door Hardware	08 70 00

	Interior Door Glazing	08 80 00
	Interior Door Louvers	08 91 26
	Interior Grilles	
	Interior Coiling Grilles	08 33 00
	Interior Folding Grilles	08 35 16
	Interior Gates	08 34 00
	Interior Security Gates	08 34 56
	Access Doors and Panels	
C1060	Raised Floor Construction	
	Access Flooring	09 69 00
	Platform/Stage Floors	
C1070	Suspended Ceiling Construction	
	Special Function Ceilings	09 57 00
	Security Ceiling Assemblies	09 57 53
	Ceiling Suspension Components	
	Suspended Ceiling Sound Isolation Components	
C1090	Interior Specialties	
	Interior Railings	
	Interior Louvers	08 90 00
	Information Specialties	10 10 00
	Visual Display Surfaces	10 11 00
	Display Cases	10 12 00
	Directories	10 13 00
	Interior Signage	10 14 00
	Telephone Specialties	10 17 00
	Informational Kiosks	10 18 00
	Compartments and Cubicles	10 21 00
	Toilet Compartments	10 21 13
	Shower and Dressing Compartments	10 21 16
	Cubicles	10 21 23
	Service Walls	10 25 00
	Patient Bed Service Walls	10 25 13
	Modular Service Walls	10 25 16
	Wall and Door Protection	10 26 00
	Corner Guards	10 26 13
	Bumper Guards	10 26 16
	Protective Wall Covering	10 26 23
	Door and Frame Protection	10 26 33
	Toilet, Bath, and Laundry Accessories	10 28 00
	Toilet Accessories	10 28 13
	Bath Accessories	10 28 16
	Tub and Shower Doors	10 28 19
	Laundry Accessories	10 28 23
	Fireplaces and Stoves	10 30 00
	Site constructed Fireplaces	
	Manufactured Fireplaces	10 31 00
	Fireplace Specialties	10 32 00
	Stoves	10 35 00
	Safety Specialties	10 40 00
	Emergency Access and Information Cabinets	10 41 00
	Emergency Aid Specialties	10 43 00
	Fire Protection Specialties	10 44 00
	Storage Specialties	10 50 00
	Lockers	10 51 00
	Postal Specialties	10 55 00

	Storage Assemblies	10 56 00
	Wardrobe and Closet Specialties	10 57 00
	Other Interior Specialties	10 80 00
	Pest Control Devices	10 81 00
	Flags and Banners	10 83 00
	Security Mirrors and Domes	10 86 00
	Scales	10 88 00
	Column Covers	
C20	INTERIOR FINISHES	
C2010	Wall Finishes	09 70 00
	Wall Finish Supplementary Components	
	Furring	
C2030	Flooring	
	Floor Finishes	09 60 00
	Entrance Mats and Grilles	12 48 13 – 12 48 26
	Flooring Supplementary Components	
	Underlayment	
	Flooring Sound Isolation Components	
C2050	Ceiling Finishes	09 50 00
	Applied Ceiling Finish	
	Ceiling Supplementary Components	
	Furring	
	Ceiling Sound Isolation Components	
C2090	Interior Finish Schedules	



D SERVICES**D10 CONVEYING****D1010 Vertical Conveying Systems**

Elevators	14 20 00
Electric Traction Elevators	14 21 00
Hydraulic Elevators	14 24 00
Limited-Use/Limited Application Elevators	14 26 00
Lifts	14 40 00
People Lifts	14 41 00
Wheelchair Lifts	14 42 00
Platform Lifts	14 43 00
Sidewalk Lifts	14 44 00
Vehicle Lifts	14 45 00
Escalators	14 31 00
Dumbwaiters	14 10 00
Manual Dumbwaiters	14 11 00
Electric Dumbwaiters	14 12 00
Hydraulic Dumbwaiters	14 14 00
Moving Ramps	14 33 00

D1030 Horizontal Conveying Systems

Moving Walks	14 32 00
Turntables	14 70 00
Industrial Turntables	14 71 00
Hospitality Turntables	14 72 00
Exhibit Turntables	14 73 00
Entertainment Turntables	14 74 00
Passenger Loading Bridges	34 77 13

D1050 Material Handling Systems

Cranes	41 22 13
Hoists	41 22 23
Derricks	41 22 33
Conveyors	41 21 00
Baggage Handling Equipment	34 77 16
Chutes	14 91 00
Pneumatic Tube Systems	14 92 00

D1080 Operable Access Systems

Suspended Scaffolding	14 81 00
Rope Climbers	14 82 00
Elevating Platforms	14 83 00
Powered Scaffolding	14 84 00
Building Envelope Access	

D20 PLUMBING**D2010 Occupant Water Supply Systems**

Domestic Water Systems	
Facility Water Storage Tanks	22 12 00
Domestic Water Equipment	
Domestic Water Softeners	22 31 00
Domestic Water Filtrating Equipment	22 32 00
Domestic Water Treatment Equipment	
Domestic Water Heaters	

	Electric Domestic Water Heaters	22 33 00
	Fuel-Fired Domestic Water Heaters	22 34 00
	Domestic Water Heat Exchangers	22 35 00
	Domestic Water Distribution	
	Domestic Water Piping	22 11 16
	Domestic Water Heat Tracing	22 05 33
	Domestic Water Pumps	22 11 23
	Plumbing Fixtures	22 40 00
D2020	Occupant Drainage Systems	
	Sanitary Drainage Systems	22 13 00
	Sanitary Drainage Equipment	
	Sanitary Waste Interceptors	22 13 23
	Sanitary Waste Separators	22 13 26
	Sanitary Sewerage Pumps	22 13 29
	Sanitary Drainage Piping Systems	
	Sanitary Sewers	22 13 13
	Sanitary Vent Piping	22 13 16
	Sanitary Specialties	22 13 19
	Sanitary Drainage Manholes	22 05 73
	Sanitary Drainage Piping Cleanouts	22 05 76
	Sanitary Plumbing Fixtures	22 40 00
	Occupant Support Plumbing System Supplementary Components	
	Occupant Support Plumbing System Identification	22 05 53
	Occupant Support Plumbing System Insulation	22 07 00
	Occupant Support Plumbing System Instrumentation and Controls	22 09 00
D2030	Building Support Plumbing Systems	
	Stormwater Drainage Systems	
	Stormwater Drainage Equipment	
	Stormwater Drainage Pumps	22 14 33, 22 14 33
	Stormwater Drainage Sump Pumps	22 14 29
	Stormwater Drainage Piping System	
	Stormwater Drainage Piping	22 14 13
	Rainwater Leaders	22 14 16
	Stormwater Drainage Specialties	22 14 23
	Stormwater Drainage Manholes	22 05 73
	Stormwater Drainage Piping Cleanouts	22 05 76
	Drains	22 14 26
	Area Drains	
	Roof Drains	
	Trench Drains	
	Gray Water Systems	
	Gray Water Storage Tanks	
	Gray Water Equipment	
	Gray Water Treatment Equipment	
	Gray Water Piping System	
	Gray Water Specialties	
	Building Support Plumbing System Supplementary Components	
	Building Support Plumbing System Identification	22 05 53
	Building Support Plumbing System Insulation	22 07 00
	Building Support Plumbing System Instrumentation and Controls	22 09 00
D2050	Process Support Plumbing Systems	
	Compressed-Air Systems	22 61 00
	Compressed-Air Equipment	22 61 19
	Compressed-Air Piping	22 61 13
	Vacuum Systems	22 62 00

Vacuum Equipment	22 62 19
Vacuum Piping	22 62 13
Waste Anesthesia-Gas Piping	22 62 23
Gas Systems	22 63 00
Gas Storage Tanks	22 63 19
Gas Equipment	
Gas Piping	22 63 13
Chemical-Waste Systems	22 66 00
Chemical-Waste Tanks	22 66 83
Chemical-Waste Piping	22 66 53, 22 66 70
Processed Water Systems	22 67 00
Processed Water Equipment	22 67 53
Processed Water Piping	22 67 13
Process Support Plumbing System Supplementary Components	
Process Support Plumbing System Identification	22 05 53
Process Support Plumbing System Insulation	22 07 00
Process Support Plumbing System Instrumentation and Controls	22 09 00
D30 HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)	
D3020 Heating Systems	
Heat Generation	
Fuel Heat Generation	
Fuel Systems	23 10 00
Fuel Storage Tanks	23 13 00
Fuel Pumps	23 12 00
Fuel Piping	23 11 00
Breechings, Chimneys, and Stacks	23 51 00
Fuel-Fired Heating Boilers	23 52 00
Solar Heat Generation	23 56 00
Heating Solar Collectors	23 56 13
Packaged Solar Heating Equipment	23 56 16
Electric Heat Generation	
Electric Heating Boilers	23 52 13
Geothermal Heat Generation	
Biomass Heat Generation	
Heating Boiler Feedwater Equipment	23 53 00
Boiler Feedwater Pumps	23 53 13
Deaerators	23 53 16
Fuel-Fired Heaters	23 55 00
Heat Exchangers for HVAC	23 57 00
Thermal Heat Storage	23 71 13
Decentralized Heating	23 80 00
Unitary Heat Pumps	23 80 43, 23 80 46
Convection Heating	23 82 00
Radiant Heating	23 83 00
Heating System Supplementary Components	
Heating System Identification	23 05 53
Heating System Insulation	23 07 00
D3040 Cooling Systems	
Central Cooling Systems	23 60 00
Refrigerant Compressors	23 61 00
Refrigerant Condensers	23 63 00
Packaged Compressor and Condenser Units	23 62 00
Water Chillers	23 64 00
Cooling Towers	23 65 00
Refrigerant Piping	23 23 00

Evaporative Air-Cooling	23 76 00
Thermal Storage	23 71 00
Chilled-Water Thermal Storage	23 71 16
Ice Storage	23 71 19
Decentralized Cooling	23 80 00
Air-Conditioners	23 80 13 – 23 81 23
Unitary Heat Pumps	23 80 43, 23 80 46
Convection Cooling	23 82 00
Cooling System Supplementary Components	
Cooling System Identification	23 05 53
Cooling System Insulation	23 07 00
D3050 Distribution Systems	
Hydronic Distribution	
Hydronic Piping System	
Hydronic Pumps	23 21 23
Hydronic Condensate Pumps	23 21 29
Hydronic Piping	23 21 13
Water Treatment for Hydronic Systems	23 25 00
Steam Distribution	
Steam Piping System	
Steam Condensate Pumps	23 22 23
Steam Piping	23 22 13
Water Treatment for Steam Systems	23 25 19
HVAC Air Distribution System	
Air-Handling	
Indoor Central-Station Air-Handling	23 73 00
Packaged Outdoor HVAC Equipment	23 74 00
Custom-Packaged Outdoor HVAC Equipment	23 74 00
Air-to-Air Energy Recovery	23 72 00
HVAC Air Distribution	23 30 00
HVAC Fans	23 34 00
Ducts and Casings	23 31 00
Air Plenums and Chases	23 32 00
Air Duct Accessories	23 33 00
Air Terminal Units	23 36 00
Air Outlets and Inlets	23 37 00
HVAC Air Cleaning	23 40 00
Humidity Control	23 84 00
D3060 Ventilation Systems	
Supply Air Systems	
HVAC Fans	23 34 00
Ducts and Casings	23 31 00
Air Plenums and Chases	23 32 00
Air Duct Accessories	23 33 00
Air Terminal Units	23 36 00
Air Outlets	23 37 00
Return Air Systems	
HVAC Fans	23 34 00
Ducts and Casings	23 31 00
Air Plenums and Chases	23 32 00
Air Duct Accessories	23 33 00
Air Outlets Inlets	23 37 00
Exhaust Air Systems	
Special Exhaust Systems	23 35 00
Air-Borne Particulate Collection Systems	
Sawdust Collection Systems	23 35 13

	Engine Exhaust Systems	23 35 16
	Ventilation Hoods	23 38 00
	Commercial-Kitchen Hoods	23 38 13
	Fume Hoods	23 38 16
	HVAC Fans	23 34 00
	Ducts and Casings	23 31 00
	Air Plenums and Chases	23 32 00
	Air Duct Accessories	23 33 00
	Air Inlets	23 37 00
	Outside Air Systems	
	HVAC Fans	23 34 00
	Ducts and Casings	23 31 00
	Air Plenums and Chases	23 32 00
	Air Duct Accessories	23 33 00
	Air Terminal Units	23 36 00
	Air Outlets and Inlets	23 37 00
	Air Cleaning Systems	23 40 00
	Cooling System Supplementary Components	
	Cooling System Identification	23 05 53
	Cooling System Insulation	23 07 00
D3070	Special Purpose HVAC Systems	
	Snow Melting	
	Radiant-Heating Electric Cables	23 83 13
	Radiant-Heating Hydronic Piping	23 83 16
D40	FIRE PROTECTION	
D4010	Fire Suppression Systems	
	Water-Based Fire-Suppression Systems	21 10 00
	Fire-Suppression Water Storage	21 40 00
	Fire Pumps	21 30 00
	Fire-Suppression Piping	21 11 00
	Fire-Suppression Standpipes	21 12 00
	Fire-Suppression Sprinkler Systems	21 13 00
	Fire-Extinguishing Systems	21 20 00
	Carbon-Dioxide Fire-Extinguishing Systems	21 21 00
	Clean-Agent Fire-Extinguishing Systems	21 22 00
	Wet-Chemical Fire-Extinguishing Systems	21 23 00
	Dry-chemical Fire-Extinguishing Systems	21 24 00
	Fire Suppression System Supplementary Components	
	Fire Suppression System Identification	21 05 53
	Fire Suppression System Insulation	21 07 00
D4030	Fire Protection Equipment	
D50	ELECTRICAL	
D5010	Facility Power Generation	
	Power Generation	26 30 00
	Packaged Generator Assemblies	26 32 00
	Engine Generators	26 32 13
	Steam-Turbine Generators	26 32 16
	Hydro-Turbine Generators	26 32 19
	Wind Energy Equipment	26 32 23
	Frequency Converters	26 32 26
	Rotary Converters	26 32 29
	Uninterruptible Power Systems	26 32 33

	Battery Equipment	26 33 00
	Photovoltaic Collectors	26 31 00
	Fuel Cells	
	Power Filtering and Conditioning	26 35 00
	Transfer Switching	26 36 00
D5020	Electrical Service and Distribution	
	Electrical Service	
	Electricity Metering	
	Substations	26 11 00
	Transformers	26 12 00
	Switchgear and Switchboards	26 13 00
	Protection Devices	26 18 00
	Power Distribution	26 20 00
	Switchboards and Panelboards	26 24 00
	Bus Assemblies	26 25 00
	Distribution Equipment	26 27 00
	Electricity Metering	26 27 13
	Electrical Cabinets and Enclosures	26 27 16
	Electrical Wiring System	
	Raceways and Enclosures	26 05 33
	Ducts	26 05 43
	Cable Trays	26 05 36
	Wiring	26 05 13
	Grounding System	26 05 26
	Raceways	26 05 33
	Wiring	26 05 13
D5030	General Purpose Electrical Power	
	Branch Wiring System	
	Raceways and Enclosures	26 05 33
	Ducts	26 05 43
	Cable Trays	26 05 36
	Wiring	26 05 13
	Wiring Devices	26 27 26
D5040	Lighting	
	Lighting Control	
	Central Dimming Control	26 09 33
	Modular Dimming Control	26 09 36
	Network Lighting Control	26 09 43
	Theatrical Lighting Control	26 09 61
	Lighting Control Panels	26 09 26
	Lighting Control Devices	26 09 23
	Branch Wiring for Lighting	
	Raceways and Enclosures	26 05 33
	Ducts	26 05 43
	Cable Trays	26 05 36
	Wiring	26 05 13
	Wiring Devices	26 27 26
	Lighting Fixtures	26 50 00
	Interior Lighting	26 51 00
	Emergency Lighting	26 52 00
	Exit Signs	26 53 00
	Classified Location Lighting	26 54 00
	Special Purpose Lighting	26 55 00
D5080	Miscellaneous Electrical Systems	

Lightning Protection	26 41 00
Lightning Protection for Structures	26 41 13
Lightning Protection and Dissipation	26 41 16
Early Streamer Emission Lightning Protection	26 41 19
Lightning Protection Surge Arresters and Suppressors	26 41 23
Cathodic Protection	26 42 00
Passive Cathodic Protection for Underground and Submerged Piping	26 42 13
Passive Cathodic Protection for Underground Storage Tanks	26 42 16
Transient Voltage Suppression	26 43 00
D60 COMMUNICATIONS	
D6010 Data Communication Systems	27 20 00
Information Transport Systems	
Processing Systems	
Input/Output Devices	
D6020 Voice Communication Systems	27 30 00
Information Transport Systems	
Processing Systems	
Input/Output Devices	
D6030 Audio-Video Communication Systems	27 40 00
Information Transport Systems	
Processing Systems	
Input/Output Devices	
D6060 Distributed Communications and Monitoring Systems	27 50 00
Distributed Audio-Video Communications Systems	27 51 00
Healthcare Communications and Monitoring Systems	27 52 00
Patient Monitoring and Telemetry Systems	27 52 13
Telemedicine Systems	27 52 16
Healthcare Imaging Systems	27 52 19
Nurse Call/Code Blue Systems	27 52 23
Distributed Systems	27 53 00
Clock Systems	27 53 13
Infrared and Radio Frequency Tracking Systems	27 53 16
Internal Cellular, Paging, and Antenna Systems	27 53 19
D6090 Communications Instrumentation and Controls	
D70 ELECTRONIC SAFETY AND SECURITY	
D7010 Access Control and Intrusion Detection Systems	28 10 00
Access Control Systems	28 13 00
Intrusion Detection Systems	28 16 00
D7030 Electronic Surveillance Systems	28 20 00
Video Surveillance Systems	28 23 00
Electronic Personal Protection Systems	28 26 00
D7050 Detection and Alarm Systems	28 30 00
Radiation Detection and Alarm Systems	28 32 00
Fuel-Gas Detection and Alarm Systems	28 33 00
Fuel-Oil Detection and Alarm Systems	28 34 00
Refrigeration Detection and Alarm Systems	28 35 00
Water Intrusion Detection and Alarm Systems	
Fire Alarm Systems	

D7070	Detection Monitoring and Control Systems	28 46 00
	Hard-Wired Detention Monitoring and Control Systems	28 46 13
	Relay-Logic Detention Monitoring and Control Systems	28 46 16
	PLC Electronic Detention Monitoring and Control Systems	28 46 19
	Computer-Based Detention Monitoring and Control Systems	28 46 23
	Discreet-Logic Detention Monitoring and Control Systems	28 46 26
	Discreet-Distributed Intelligence Detention Monitoring and Control Systems	28 46 29
D80	INTEGRATED AUTOMATION	
D8010	Integrated Automation Facility Controls	25 50 00, 25 90 00
	Integrated Automation Control and Sequences of Equipment	25 51 00, 25 91 00
	Integrated Automation Control and Sequences of Conveying Equipment	25 52 00, 25 92 00
	Integrated Automation Control and Sequences of Fire-Suppression Systems	25 53 00, 25 93 00
	Integrated Automation Control and Sequences of Plumbing Systems	25 54 00, 25 94 00
	Integrated Automation Control and Sequences of HVAC Systems	25 55 00, 25 95 00
	Integrated Automation Control and Sequences of Electrical Systems	25 56 00, 25 96 00
	Integrated Automation Control and Sequences of Communication Systems	25 57 00, 25 97 00
	Integrated Automation Control and Sequences of Electronic Safety and Security Systems	25 58 00, 25 98 00

E	EQUIPMENT AND FURNISHINGS	
E10	EQUIPMENT	
E1010	Vehicle and Pedestrian Equipment	11 10 00
	Vehicle Service Equipment	11 11 00
	Parking control Equipment	11 12 00
	Loading Dock Equipment	11 13 00
	Pedestrian Control Equipment	11 14 00
E1030	Commercial Equipment	11 20 00
	Mercantile and Service Equipment	11 21 00
	Vault Equipment	11 16 00
	Teller and Service Equipment	11 17 00
	Refrigerated Display Equipment	11 22 00
	Commercial Laundry and Dry Cleaning Equipment	11 23 00
	Maintenance Equipment	11 24 00
	Hospitality Equipment	11 25 00
	Unit Kitchens	11 26 00
	Photographic Processing Equipment	11 27 00
	Office Equipment	11 28 00
	Postal, Packaging, and Shipping Equipment	11 29 00
	Foodservice Equipment	11 40 00
	Food Storage Equipment	11 41 00
	Food Preparation Equipment	11 42 00
	Food Delivery Carts and Conveyors	11 43 00
	Food Cooking Equipment	11 44 00
	Food Dispensing Equipment	11 46 00
	Ice Machines	11 47 00
	Cleaning and Disposal Equipment	11 48 00
E1040	Institutional Equipment	11 50 00
	Educational and Scientific Equipment	11 50 00
	Library Equipment	11 51 00
	Audio-Visual Equipment	11 52 00
	Laboratory Equipment	11 53 00
	Planetarium Equipment	11 55 00
	Observatory Equipment	11 56 00
	Vocational Shop Equipment	11 57 00
	Exhibit Equipment	11 59 00
	Healthcare Equipment	11 70 00
	Medical Sterilizing Equipment	11 71 00
	Examination and Treatment Equipment	11 72 00
	Patient Care Equipment	11 73 00
	Dental Equipment	11 74 00
	Optical Equipment	11 75 00
	Operating Room Equipment	11 76 00
	Radiology Equipment	11 77 00
	Mortuary Equipment	11 78 00
	Therapy Equipment	11 79 00
	Religious Equipment	11 91 00
	Security Equipment	11 18 00
	Detention Equipment	11 19 00
E1060	Residential Equipment	11 30 00
	Residential Appliances	11 31 00
	Retractable Stairs	11 32 00

E1070	Entertainment and Recreational Equipment	
	Theater and Stage Equipment	11 61 00
	Musical Equipment	11 62 00
	Athletic Equipment	11 66 00
	Recreational Equipment	11 67 00
	Playfield Equipment and Structures	11 68 00
E1090	Other Equipment	11 90 00
	Solid Waste Handling Equipment	11 81 00
	Agricultural Equipment	11 92 00
	Horticultural Equipment	11 93 00
	Decontamination Equipment	
E20	FURNISHINGS	
E2010	Fixed Furnishings	
	Fixed Art	12 10 00
	Murals	12 11 00
	Fixed Wall Decorations	12 12 00
	Fixed Sculptures	12 14 00
	Art Glass	12 17 00
	Fixed Religious Art	12 19 00
	Window Treatments	12 20 00
	Window Blinds	12 21 00
	Curtains and Drapes	12 22 00
	Interior Shutters	12 23 00
	Window Shades	12 24 00
	Window Treatment Operating Hardware	12 25 00
	Casework	12 30 00
	Specialty Casework	12 35 00
	Bank Casework	12 35 17
	Hospitality Casework	12 35 25
	Residential Casework	12 35 30
	Utility Room Casework	12 35 33
	Educational/Library Casework	12 35 50
	Laboratory Casework	12 35 53
	Display Casework	12 35 59
	Healthcare Casework	12 35 70
	Religious Casework	12 35 91
	Countertops	12 36 00
	Fixed Multiple Seating	12 60 00
	Fixed Audience Seating	12 61 00
	Stadium and Arena Seating	12 63 00
	Fixed Booths and Tables	12 64 00
	Multiple-Use Fixed Seating	12 65 00
	Telescoping Stands	12 66 00
	Fixed Pews and Benches	12 67 00
	Fixed Seat and Table Assemblies	12 68 00
	Other Fixed Furnishings	12 90 00
	Fixed Interior Planters and Artificial Plants	12 92 00
E2050	Movable Furnishings	
	Movable Art	12 10 00
	Sculptures	12 14 00
	Religious Art	12 19 00
	Accessories	12 40 00
	Office Accessories	12 41 00
	Table Accessories	12 42 00

Portable Lamps	12 43 00
Bath Furnishings	12 44 00
Bedroom Furnishings	12 45 00
Accessories	12 46 00
Movable Rugs and Mats	12 48 00
Furniture	12 50 00
Office Furniture	12 51 00
Seating	12 52 00
Retail Furniture	12 53 00
Hospitality Furniture	12 54 00
Detention Furniture	12 55 00
Institutional Furniture	12 56 00
Industrial Furniture	12 57 00
Residential Furniture	12 58 00
Systems Furniture	12 59 00
Movable Multiple Seating	12 60 00
Portable Audience Seating	12 62 00
Portable Multiple-Use Seating	12 65 00
Portable Pews and Benches	12 67 00
Portable Seat and Table Assemblies	12 68 00
Other Movable Furnishings	12 90 00
Movable Interior Planters and Artificial Plants	12 92 00

F SPECIAL CONSTRUCTION AND DEMOLITION**F10 SPECIAL CONSTRUCTION****F1010 Integrated Construction**

Building Modules	13 42 00
Hospital Unit Modules	13 42 25
Dwelling Unit Modules	13 42 33
Dormitory Unit Modules	13 42 43
Detention Cell Modules	13 42 63
Manufactured/Fabricated Rooms	13 20 00
Controlled Environment Rooms	13 21 00
Office Shelters and Booths	13 22 00
Planetariums	13 23 00
Special Activity Rooms	13 24 00
Vaults	13 27 00

F1020 Special Structures

Fabric Structures	13 31 00
Air-Supported Fabric Structures	13 31 13
Tensioned Fabric Structures	13 31 23
Framed Fabric Structures	13 31 33
Space Frames	13 32 00
Geodesic Structures	13 33 00
Geodesic Domes	13 33 13
Fabricated Structures	13 34 00
Glazed Structures	13 34 13
Grandstands and Bleachers	13 34 16
Metal Building Systems	13 34 19
Observatories	13 34 56
Towers	13 36 00
Functional Towers	
Decorative Towers	

F1030 Special Function Construction

Sound and Vibration Control	13 48 00
Seismic Control	13 48 00
Radiation Protection	13 49 00
Radio Frequency Protection	
X-Ray Protection	
Nuclear Radiation Protection	
Electromagnetic Field Protection	
High Energy Magnetic Pulse Protection	

F1050 Special Facility Components

Pools	
Swimming Pools	13 11 00
Tubs and Pools	13 17 00
Pool Plumbing Systems	22 51 00
Pool Equipment	
Pool Water Treatment	22 51 19
Pool Pumps	22 51 16
Pool Equipment Controls	22 51 23
Pool Piping System	22 51 13
Pool Specialties	
Interior Fountains	13 12 23
Fountain Plumbing Systems	22 52 00
Fountain Equipment	

	Fountain Water Treatment	22 52 19
	Fountain Pumps	22 52 16
	Fountain Equipment Controls	22 52 23
	Fountain Piping System	22 52 13
	Fountain Specialties	
	Aquariums	13 13 00
	Amusement Park Structures and Equipment	13 14 00
	Ice Rinks	13 18 00
	Kennels and Animal Shelters	13 19 00
F1060	Athletic and Recreational Special Construction	13 28 00
	Indoor Soccer Boards	13 28 13
	Safety Netting	13 28 16
	Arena Football Boards	13 28 19
	Floor Sockets	13 28 26
	Athletic and Recreational Court Walls	13 28 33
	Demountable Athletic Surfaces	13 28 66
F1080	Special Instrumentation	13 50 00
	Stress Instrumentation	13 51 00
	Seismic Instrumentation	13 51 00
	Meteorological Instrumentation	13 51 00
F20	FACILITY REMEDIATION	
F2010	Hazardous Materials Remediation	02 80 00
	Transportation and Disposal of Hazardous Materials	02 81 00
	Asbestos Remediation	02 82 00
	Lead Remediation	02 83 00
	Polychlorinate Biphenyl Remediation	02 84 00
	Mold Remediation Stabilization	02 85 00
F30	DEMOLITION	
F3010	Structure Demolition	02 41 16
	Building Demolition	
	Tower Demolition	
	Bridge Demolition	
	Dam Demolition	
F3030	Selective Demolition	
	Selective Historic Demolition	02 41 91

G SITEWORK**G10 SITE PREPARATION**

G1010	Site Clearing	31 10 00
	Clearing and Grubbing	31 11 00
	Tree and Shrub Removal and Trimming	31 13 00
	Earth Stripping and Stockpiling	31 14 00
	Soil Stripping and Stockpiling	31 14 13
	Sod Stripping and Stockpiling	31 14 16
G1020	Site Elements Demolition	
	Selective Site Demolition	02 41 13
G1030	Site Element Relocations	
	Structure Moving	02 43 00
	Utility Relocation	
G1050	Site Remediation	02 50 00
	Physical Decontamination	02 51 00
	Chemical Decontamination	02 52 00
	Thermal Decontamination	02 53 00
	Biological Decontamination	02 54 00
	Remediation Soil Stabilization	02 55 00
	Site Containment	02 56 00
	Sinkhole Remediation	02 57 00
	Hazardous Waste Drum Handling	02 86 00
	Contaminated Site Material Removal	02 60 00
	Removal and Disposal of Contaminated Soils	02 61 00
	Hazardous Waste Recovery Processes	02 62 00
	Underground Storage Tank Removal	02 65 00
	Landfill Construction and Storage	02 66 00
	Water Remediation	02 70 00
	Groundwater Treatment	02 71 00
	Water Decontamination	02 72 00
G1070	Site Earthwork	
	Grading	31 22 00
	Excavation and Fill	31 23 00
	Trenching	31 23 33
	Rock Removal	
	Backfill	
	Compaction	
	Embankments	31 24 00
	Erosion and Sedimentation Controls	31 25 00
	Soil Treatment	31 31 00
	Rodent Control	31 31 13
	Termite Control	31 31 16
	Vegetation Control	31 31 19
	Soil Stabilization	31 32 00
	Rock Stabilization	31 33 00
	Soil Reinforcement	31 34 00
	Slope Protection	31 35 00
	Gabions	31 36 00
	Riprap	31 37 00
	Earth Dams	

G20 SITE IMPROVEMENTS

G2010	Roadways	
	Roadway Base Courses	32 11 00
	Flexible Roadway Pavement	32 12 00
	Rigid Roadway Pavement	32 13 00
	Roadway Unit Pavement	32 14 00
	Roadway Aggregate Surfacing	32 15 00
	Roadway Curbs and Gutters	32 16 00
	Roadway Appurtenances	32 16 00
	Roadway Construction	34 71 00
	Traffic Signage	10 14 53
	Roadway Signaling and Control Equipment	34 41 00
	Pavement Markings	32 17 23
	Vehicle Fare Collection	34 52 00
G2020	Parking Lots	
	Parking Lot Base Courses	32 11 00
	Flexible Parking Lot Pavement	32 12 00
	Rigid Parking Lot Pavement	32 13 00
	Parking Lot Unit Pavement	32 14 00
	Parking Lot Aggregate Surfacing	32 15 00
	Parking Lot Curbs and Gutters	32 16 00
	Parking Lot Appurtenances	32 16 00
	Parking Lot Construction	34 71 00
	Traffic Signage	10 14 53
	Pavement Markings	32 17 23
	Parking Control Equipment	11 12 00
G2030	Pedestrian Pavement	
	Pedestrian Pavement Base Courses	32 11 00
	Flexible Pedestrian Pavement	32 12 00
	Rigid Pedestrian Pavement	32 13 00
	Pedestrian Unit Pavement	32 14 00
	Pedestrian Aggregate Surfacing	32 15 00
	Pedestrian Pavement Curbs and Gutters	32 16 00
	Exterior Steps and Ramps	
	Pedestrian Pavement Appurtenances	32 16 00
	Pavement Markings	32 17 23
	Tactile Warning Surfacing	32 17 23
	Pedestrian Control Equipment	11 14 00
G2040	Aviation Pavement	
	Aviation Pavement Base Courses	32 11 00
	Flexible Aviation Pavement	32 12 00
	Rigid Aviation Pavement	32 13 00
	Aviation Aggregate Surfacing	32 15 00
	Aviation Pavement Curbs and Gutters	32 16 00
	Aviation Pavement Appurtenances	32 16 00
	Pavement Markings	32 17 23
	Traffic Signage	10 14 53
G2060	Site Development	
	Exterior Fountains	13 12 13
	Fences and Gates	32 31 00
	Athletic and Recreational Surfaces	32 18 00
	Playfield Equipment and Structures	11 68 00
	Playground Equipment	11 68 13
	Play Structures	11 68 16

	Exterior Court Athletic Equipment	11 68 23
	Athletic Field Equipment	11 68 33
	Exterior Scoreboards	11 68 43
	Site Furnishings	12 93 00
	Bicycle Racks	12 93 13
	Trash and Litter Receptors	12 93 23
	Planters	12 93 33
	Site Seating and Tables	12 93 43
	Exterior Signage	10 14 00
	Flagpoles	10 75 00
	Covers and Shelters	10 73 00
	Car Shelters	10 73 23
	Walkway Coverings	10 73 26
	Transportation Stop Shelters	10 73 43
	Site Equipment	
	Banking Equipment	
	Retaining Walls	32 32 00
	Bridges	32 34 00
	Screening Devices	32 35 00
	Screens and Louvers	32 35 13
	Sound Barriers	32 35 16
G2080	Landscaping	
	Planting Irrigation	32 84 00
	Drip Irrigation	32 84 13
	Sprinkler Systems	32 84 23
	Turf and Grasses	32 92 00
	Plants	32 93 00
	Ground Covers	32 93 13
	Plants and Bulbs	32 93 23
	Shrubs	32 93 33
	Trees	32 93 43
	Planting Accessories	32 94 00
	Landscape Edging	32 94 13
	Landscape Timbers	32 94 16
	Planters	32 94 33
	Tree Grates	32 94 43
	Tree Grids	32 94 46
	Landscaping Activities	32 94 00
	Planting Preparation	32 91 00
	Transplanting	32 96 00
G30	LIQUID AND GAS SITE UTILITIES	
G3010	Water Utilities	33 10 00
	Water System for Domestic Consumption	
	Water Utility Service	
	Water Supply Wells	33 21 00
	Water Distribution Piping	33 11 00
	Water Distribution Equipment	33 12 00
	Disinfecting of Water Distribution	33 13 00
	Water Storage Tanks	33 16 00
	Water Ponds and Reservoirs	33 47 19
	Water System for Fire Protection	
	Water Utility Service	
	Water Supply Wells	33 21 00
	Water Distribution Piping	33 11 00
	Water Distribution Equipment	33 12 00

	Water Storage Tanks	33 16 00
	Water Ponds and Reservoirs	33 47 19
	Water System for Irrigation	
	Water Utility Service	
	Water Supply Wells	33 21 00
	Water Distribution Piping	33 11 00
	Water Distribution Equipment	33 12 00
	Water Storage Tanks	33 16 00
	Water Ponds and Reservoirs	33 47 19
	Water Utility Instrumentation and Controls	33 09 10
G3020	Sanitary Sewerage Utilities	33 30 00
	Sanitary Sewerage Utility Connection	
	Sanitary Sewerage Piping	33 31 00
	Low Pressure Sanitary Sewerage	33 33 00
	Sanitary Sewerage Force Mains	33 34 00
	Septic Tanks	33 36 00
	Sanitary Sewerage Structures	33 39 00
	Sanitary Sewerage Lagoons	33 47 23
	Sanitary Sewerage Instrumentation and Controls	33 09 30
G3030	Storm Drainage Utilities	33 40 00
	Storm Drainage Utility Connection	
	Storm Drainage Piping	33 41 00
	Culverts	33 42 00
	Storm Water Drains	33 44 00
	Storm Drainage Pumps	33 45 00
	Subdrainage	33 46 00
	Storm Drainage Ponds and Reservoirs	33 47 26
	Storm Drainage Instrumentation and Controls	33 09 40
G3050	Energy Distribution Systems	
	Heating Distribution System	
	Heating Utility Connection	
	Hot Water Energy Distribution	33 61 00
	Steam Energy Distribution	33 63 00
	Cooling Distribution System	
	Cooling Utility Connection	
	Chilled Water Energy Distribution	33 61 00
	Energy Distribution System Instrumentation and Controls	33 09 60

G3060	Fuel Distribution Systems	
	Gas Distribution Systems	33 41 00
	Gas Utility Connection	
	Natural-Gas Distribution	33 51 00
	Liquefied Petroleum Gas Distribution	
	Compressed Gases Storage Tanks	33 56 23
	Fuel-Oil Distribution Systems	33 52 13
	Fuel-Oil Piping	
	Fuel-Oil Pumps	
	Fuel-Oil Storage Tanks	33 56 00
	Gasoline Distribution Systems	33 52 16
	Gasoline Piping	
	Gasoline Pumps	
	Gasoline Storage Tanks	33 56 00
	Diesel Fuel Distribution Systems	33 52 19
	Diesel Fuel Piping	
	Diesel Fuel Pumps	
	Diesel Fuel Storage Tanks	33 56 00
	Aviation Fuel Distribution Systems	33 52 43
	Aviation Fuel Piping	
	Aviation Fuel Pumps	
	Aviation Fuel Grounding	
	Aviation Fuel Storage Tanks	33 56 43
	Fuel Distribution System Instrumentation and Controls	33 09 50
G40	ELECTRICAL SITE IMPROVEMENTS	
G4010	Electric Distribution Systems	
	Electrical Utility Services	33 71 73
	Electrical Substations	33 72 00
	Electrical Transformers	33 73 00
	Electrical Switchgear and Protection Devices	33 75 00, 33 77 00
	Electrical Distribution Structures	33 71 13, 33 71 16
	Underground Ducts and Manholes	33 71 19
	Electrical Transmission and Distribution Equipment	33 71 26
	Wiring	33 71 39, 33 71 39, 33 71 49
	Direct-Current Transmission	33 71 53
	Electrical Distribution System Instrumentation and Controls	33 09 70
G4050	Site Lighting	26 56 00
	Parking Lighting	26 56 16
	Roadway Lighting	26 56 19
	Area Lighting	26 56 23
	Landscape Lighting	26 56 26
	Walkway Lighting	26 56 33
	Flood Lighting	26 56 36
	Exterior Athletic Lighting	26 56 68
	Exterior Lighting Supplementary Components	
	Lighting Poles and Standards	26 56 13
	Site Lighting Instrumentation and Controls	26 09 00

G50 SITE COMMUNICATIONS**G5010 Site Communications Systems**

Site Data Communications	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Voice Communications	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Audio-Visual Communications	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Distributed Communications and Monitoring Systems	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Communications Instrumentation and Controls	33 09 80

G5030 Site Electronic Safety and Security Systems

Site Electronic Access Control and Intrusion Detection	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Electronic Surveillance	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Electronic Detection and Alarm	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Electronic Monitoring and Control	
Communications Structures	33 81 00
Communications Distribution	33 82 00
Wireless Communications Distribution	33 83 00
Site Electronic Safety and Security System Instrumentation and Controls	33 09 80

G90 MISCELLANEOUS SITE CONSTRUCTION**G9010 Tunnels**

Vehicular Tunnels	
Tunnel Support Systems	31 72 00
Tunnel Grouting	31 73 00
Tunnel Construction	31 74 00
Submersible Tube Tunnels	31 77 00
Pedestrian Tunnels	
Tunnel Support Systems	31 72 00
Tunnel Grouting	31 73 00
Tunnel Construction	31 74 00
Submersible Tube Tunnels	31 77 00
Service Tunnels	
Tunnel Support Systems	31 72 00
Tunnel Grouting	31 73 00
Tunnel Construction	31 74 00
Submersible Tube Tunnels	31 77 00

Tunnel Construction Related Activities
Tunnel Excavation

31 71 00

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- Z PROJECT COSTS**
- Z10 CONSTRUCTION COSTS**
Z1010 Substructure Construction Costs
Z1020 Shell Construction Costs
Z1030 Interiors Construction Costs
Z1040 Services Construction Costs
Z1050 Equipment and Furnishings Construction Costs
Z1060 Special Construction and Demolition Costs
Z1070 Sitework Construction Costs
- Z20 PROJECT INITIATION COSTS**
Mobilization Costs
 Construction Equipment Costs
 Small Tools and Consumable Costs
 Office Trailer Costs
 Tool Vans and Change House Costs
 Personnel Relocation Costs
- Z30 STAFFING COSTS**
Site Office Supplies Costs
Field Supervision Staff
Office Management Staff
Administrative Staff
Contracted Services Costs
 Janitorial Costs
 Security Costs
 Material Testing
 Authorized Inspector
 Testing and Inspections
 Survey and Layout
 Legal Costs
 Accounting Fees
- Z40 TEMPORARY FACILITIES COSTS**
Temporary Buildings Costs
Temporary Utilities Costs
Temporary Construction Costs
Equipment Operating Expenses
Temporary Site Costs
Temporary Climate Control Costs
- Z50 PROJECT CLOSEOUT COSTS**
Demobilization Costs
Startup and Adjusting Costs
Completion Inspection Costs
Closeout Submittals Costs
Commissioning Costs
Demonstrating and Training Costs
Operation and Maintenance Costs
As-Built Information Costs
- Z60 TAXES, PERMITS, INSURANCE AND BONDS**
Taxes and License Fees
Permit Costs
Insurance Costs
Bond Fees

Z70 **QUALITY CONTROL COSTS**
Testing and Inspection Costs
Manufacturers Field Service Costs
Quality Assurance and Control Costs

Z90 **FEES AND CONTINGENCIES**
Overhead
Profit
Design Contingency Costs
Construction Contingency Costs
Escalation Contingency Costs
Finance Expenses

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