

Appendix A

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Appendix B

PerSpective Section Content Summaries

00001 PROJECT TITLE PAGE

This is a blank document for use in preparing a title sheet for the entire set of documents. A title sheet can also be prepared separately using word processing.

00002 CERTIFICATIONS PAGE

This is a blank document for use in preparing a certifications page. A certifications page can also be prepared separately using word processing.

00003 SEALS PAGE

This is a blank document for use in preparing a seals page. A seals page can also be prepared separately using word processing.

00005 PROJECT INFORMATION

This section functions as an overall project summary, invitation to proposers, advertisement for proposals, and invitation for bids for construction. Use this section on all projects.

ADVICE TO USERS: If you edit this section first, before selecting other sections, the links will aid in deciding which sections are needed. If the project is being re-used at a later stage than that at which it was originally created, important changes will need to be made in this section.

This section includes basic project data and a description of the documents being prepared. It can be placed at the beginning of a printed set of documents, used alone as a published Advertisement for Proposals, or attached to a letter of invitation to potential design-builders.

This section should never be made a part of the Contract Documents. All dates and other information in this section that must be made part of the contract must be incorporated into the Agreement and/or the Conditions of the Contract.

00010 TABLE OF CONTENTS

The Table of Contents is a user-editable section, linked to and from the other sections so that it serves as a simple checklist and yet is coordinated to the actual sections prepared. Select the sections you know you will need and the system will select the others that are also necessary.

ADVICE TO USERS: For best results, begin in Section 00005 - Project Information, to take full advantage of the linking between sections.

For an RFP, the general order for preparing documents is as follows:

1. Prepare the project program (unless it will be prepared as part of the Design-Build contract).
2. Prepare Section 1 - Program Summary, Section 11 - Project Program, and Section 111 - Facility Performance. These sections are absolutely necessary.
3. Prepare the main System Group sections (Volumes A through G).
4. If more detailed performance requirements are necessary, prepare any of the Assembly and Element Sections that are necessary. Each indented level section is philosophically dependent on its higher level section (its "parent").
5. If it is necessary to include product specifications for any item, prepare the appropriate section and text in Volume X. Cross-references to the five-digit reference numbers that are used in Volume X are included in the other sections.
6. Prepare the Contracting Requirements and the RFP Requirements.

When all the documents are complete, the RFQ or RFP can be issued. See the DBIA guides listed in Section 00840 – Referenced Documents for advice on conducting the remainder of the process.

When responding to a formal RFP, the proposer should first perform whatever preliminary design is required, based on the requirements of the proposal process, and prepare drawings sufficient to illustrate the design to the owner. Then follow the above procedure to the extent necessary to "flesh out" the requirements and respond to specific requirements for information. When complete, the Proposal Documents should be packaged as specified in the RFP, if any, for submittal to the owner. See the DBIA guides listed in Section 00840 for advice on preparing effective proposal presentations.

When preparing documents for construction, the design-builder should first complete the design to the extent necessary to obtain satisfactory proposals from suppliers and subcontractors, then prepare drawings sufficient to illustrate that design. The text documents should be organized so those portions applicable to all subcontracts can be bound together, with the remaining documents selected as applicable to the particular subcontract being bid.

00015 LIST OF DRAWINGS AND SCHEDULES

This section is a template for preparing a project-specific document. This type of document can also be prepared separately using word processing.

OWNERS: The fewer drawings that are produced during the programming stage, the less restriction the design-builder will have in completing the design and, therefore, the more opportunity to obtain the best possible design.

00200 INSTRUCTIONS TO PROPOSERS

This section covers the conducting of an RFP process when more than one prospective design-builder is being considered for a single project. This is referred to as a "competitive" RFP to distinguish it from a procedure in which the owner requests a proposal from a single prospective proposer. In the latter case, few formal procedures are required (it is often a verbal RFP).

Use this section for both Request for Qualifications (RFQ) and Request for Proposals (RFP). Select the text appropriate to the specific purpose of the document, and edit and add text as required to suit the project conditions.

This section is designed to accommodate both a single stage RFP (qualifications and cost/quality/time at the same time) and a two-stage process (pre-qualification first, then cost/quality/time, or RFQ/RFP). The section includes three sections: 1) the Competition Process (chronological description, itemization of the documents); 2) the Evaluation (basis and procedures for making selection, including qualifications, a "jury," etc.); and 3) Terms and Procedures (details of accomplishing a proposal).

The selection process described in this section is usually referred to as a "Fixed Price/Best Design" evaluation. Although other methods of comparing proposals exist, the "Fixed Price/Best Design" method is the easiest for owners, since only the design, quality, and quantity are at issue—the price is set at a maximum the owner has already decided he or she can afford. If a fixed contract amount has not been set, it will be necessary to develop more detailed procedures to compare disparate proposals on the basis of cost as well as design/quality/quantity. Those should be added to the section EVALUATION if they need to be published for the proposers' information. See the DBIA publication "The Design-Build Process Utilizing Competitive Selection" for more information.

The Instructions to Proposers is not part of the Contract Documents. All dates and other information in this section that must be made part of the contract must be incorporated into the Agreement and/or the Conditions of the Contract.

00300 INFORMATION AVAILABLE TO PROPOSERS

This section is a place to list other documents that are available to the proposers for assistance in preparing proposals. Most of these documents are never incorporated into the Contract Documents, although occasionally they are, based on the owner's particular experience and preferences. Edit this section to describe the documents and where they can be obtained or inspected. Coordinate this section with Section 00200, Instructions to Proposers—that section includes a listing of these types of documents.

00400 PROPOSAL FORM

This section is used to prepare the form that the proposers will use to make cost/time/quality proposals for a design-build project. It will undoubtedly require customization to the specific project before printing for inclusion in a Request for Proposals.

The intention is that this form be included in every copy of the RFP that is issued, so the proposers can simply copy it, fill it out, attach all required documents to it, and submit it at the time specified.

This form can also be used by a design-builder when a proposal has been only informally requested. In that case, the design-builder should modify and fill out the form as desired.

If another specific proposal form must be used instead, be sure to include it in the set of documents issued to proposers or bidders.

Section 00200 - Instructions to Proposers includes important information about how to submit proposals, what information is available to proposers, and what are the terms of acceptance or award.

00490 RFP ADDENDA

This section is a blank document for use in preparing project-specific addenda to RFP Documents. If each addendum must be a separate document, export the first one to RTF to save it, then start over for the second one. If not, it may be desirable, as well as practical, to make a cumulative addendum in this document, with the text of each subsequent addendum added at the beginning, clearly numbered and dated. This type of document can also be prepared separately using word processing.

00500 AGREEMENT AND CONDITIONS OF THE CONTRACT

This section describes the relationship between the Agreement and Conditions of the Contract and the other contractual documents for a Design-Build contract. An external document or documents can be referenced or text can be entered or imported, for both the Agreement and the Conditions of the Contract. If external documents are referenced, they should normally be inserted into a published RFP for the information of the proposers -- this section then also functions as a cover sheet for those documents.

Design-build contracting forms by the American Institute of Architects (AIA), the Engineers' Joint Contract Documents Committee (EJCDC), and the Associated General Contractors of America (AGC) are referenced in the text, for use if applicable, and the terminology in other sections is coordinated with these documents. If a completely custom agreement is required, that can be referenced here instead of one of the standard forms, or it can be imported into this section.

If the terms of the Owner-Design-Builder Agreement will be passed along by the design-builder to subcontractors, include a copy in the bidders' package. If not, include a copy of the form of agreement that will be used for Design-Builder/Subcontractor contracts; EJCDC, AIA, and AGC have subcontract forms that are coordinated with the Owner/Design-Builder Agreement forms.

00570 CONTRACT DEFINITIONS

This section includes all the basic definitions that are essential to understanding and properly conducting a Design-Build contract. The principal types of definitions are:- the Conceptual Documents, the Contract Documents, the Proposal Documents, and the phases, stages, or milestones critical to performance of the contract.

These definitions are the basis for many provisions in other sections. Also coordinate these definitions with the Agreement and Conditions of the Contract.

00600 BONDS AND CERTIFICATES

This is a blank document for use in preparing a list of the bonds and certificates required. This type of list can also be prepared separately using word processing.

00800 SUPPLEMENTARY CONDITIONS

This is a blank document for use in preparing Supplementary Conditions. This type of document can also be prepared separately using word processing.

00810 STATUTORY REQUIREMENTS

This is a blank document for use in preparing a description of the laws and regulations that apply, if it is necessary to include a description in the Conditions of the Contract. This type of document can also be prepared separately using word processing.

00820 INSURANCE

This is a blank document for use in preparing a description of the insurance the design-builder is required to furnish. This type of document can also be prepared separately using word processing.

00830 DESIGN AND CONSTRUCTION PROCEDURES

This section describes procedures to be followed by the owner and design-builder during both design and construction. In addition, this is the place to locate any general scope requirements that relate to construction operations, such as temporary facilities, etc.

Although this section may be applicable to construction subcontracts, it is specifically addressed to the design-builder rather than to the construction entity or entities. Section X01, on the other hand, is directed specifically to the construction entity and includes more detail than is normally necessary in this section. If Section X01 is used without this section, for construction subcontracts, some parts of this section may need to be copied into Section X01.

00840 REFERENCED DOCUMENTS

This section includes a complete bibliographic citation for each document referenced elsewhere in the text. Include this section if the complete citation is necessary to assure complete understanding of the source of the referenced requirements. That might be the case if the edition date has not been included in the original reference (see File Menu, Summary Info, for the setting to include the edition dates or not).

Inclusion of a reference document in this section does not constitute a binding requirement unless the document is referenced elsewhere for a particular purpose. For example, Section 111 - Facility Performance, lists many documents as part of the definition of the "code," both those that are required by law and those that are the owner's option. In addition, almost every other section includes reference documents as part of the performance criteria discussed in that section.

If it is necessary to add citations for user-added reference documents, the best method is to copy an existing paragraph to the appropriate location. Then edit the text and edition date in the copy. The date is in an embedded "choice" and must be edited using the Choice Menu, after positioning the cursor between the brackets.

00940 MODIFICATIONS

This section is a blank document for use in preparing project-specific addenda after receipt of proposals. If each modification must be a separate document, export the first one to RTF to save it, then start over for the second one. If not, it may be desirable, as well as practical, to make a cumulative modification document, with the text of each subsequent modification added at the end, clearly numbered and dated. This type of document can also be prepared separately using word processing.

1 PROGRAM SUMMARY

This section includes a brief overview of the project function, intended as a preamble to the actual project program, which must be prepared separately. This preamble identifies the principal occupancies, spaces in the buildings, and some information about existing conditions.

In addition to functioning as an introduction to the project, this section is linked to the performance requirements, making it possible to pass information between the program and the performance specifications. This section includes information about the following:

- Occupancy type (what kind of building it is)
- Interior and exterior building spaces (rooms and outdoor spaces)
- Existing conditions (buildings, utilities, and site features about which the design-builder needs to know)

Any additional information not included in the program may be added to this section. Avoid repetition of information already included in the performance requirements (Section 111 and Volumes A through G).

11 PROJECT PROGRAM

This section is the table of contents of the project program, which must be prepared separately. This document also includes a guide to the preparation of a program that interfaces correctly with the performance specifications. See the notes at each contents heading for more information.

OWNERS: Preparation of a program is usually a collaboration between the owner and a design professional, often a specialist in that work called a criteria professional. A program can also be prepared by a design-builder based on the owner's input as part of the preparation of a proposal or after execution of the contract. However, it will be difficult to obtain accurately priced proposals until a program has been prepared and approved by the owner, unless those proposals can be based on another building as a model.

111 FACILITY PERFORMANCE

This section covers important and fundamental requirements, of both performance and prescriptive types, that apply to the project as a whole or to every element of the project.

Important topics covered include the following:

- Codes and laws affecting design and construction
- Non-regulatory criteria documents
- Global performance requirements that apply to more than one group of elements

- Selection of products and elements from the options allowed
- Substantiation requirements that apply to all elements and products

A SUBSTRUCTURE

This section includes requirements for all building elements that are below grade or in direct contact with the ground, up to the back side of interior finishes, which are covered in Volume C - Interiors. Requirements include provisions for excavation that are necessary to put substructure in place, but do not include other types of excavation, such as site grading and excavation for site utilities.

Substructure comprises the following major elements:

- Foundations: All types of building foundations, including spread footings, foundation walls, elevator pits, slabs on grade, and components such as shoring and underpinning, piles, cofferdams, and dewatering systems, if included as part of permanent construction
- Basements: All elements necessary to enclose space below grade, including excavation, backfill, and compaction of earth adjacent to basements. Basements comprise all elements of below-grade wall and floor construction, including thermal insulation, waterproofing and dampproofing, and subdrainage

A1 FOUNDATIONS

This section includes requirements for all types of foundation systems. Requirements include provisions for excavation that are necessary to put foundations in place, but do not include other types of excavation, such as site grading and excavation for site utilities.

Foundations comprise the following major elements:

- Standard Foundations: Spread footings beneath columns and linear spread footings below loadbearing walls. This category also includes pile caps and lateral foundation ties.
- Other Foundations: All types of special foundation systems, including rafts, caissons, driven piles, and permanent shoring and underpinning.
- Floors on Grade: All elements that comprise the completed slab foundation, including trenches and pits, equipment bases, and provisions for drainage, thermal insulation, and moisture barriers.

A11 STANDARD FOUNDATIONS

This section includes requirements for typical spread footing foundation systems, both pier and linear types, as well as pile and caisson caps. Requirements include provisions for excavation that are necessary to put standard foundations in place, but do not include other types of excavation, such as site grading and excavation for site utilities.

Special types of foundation elements, such as piles and caissons, raft foundations, and pole foundations, are included in Section A12 - Other Foundations. Section A12 also includes systems such as shoring and underpinning that become a permanent part of the foundation, as well as permanent dewatering systems and cofferdams.

Slabs on grade are included in Section A13 - Floors on Grade, with elements such as trenches, sumps and pits, equipment bases, insulation, moisture barriers, and waterproofing.

A12 OTHER FOUNDATIONS

This section includes requirements for special types of foundation elements, such as piles and caissons, raft foundations, and pole foundations. Section A12 also includes systems such as shoring and underpinning that become a permanent part of the foundation, as well as permanent dewatering systems and cofferdams.

Typical spread footing foundation systems, both pier and linear types, as well as pile and caisson caps, are covered in Section A11 - Standard Foundations. Requirements in that section include provisions for excavation that are necessary to put standard foundations in place, but do not include other types of excavation, such as site grading and excavation for site utilities.

Slabs on grade are included in Section A13 – Floors on Grade, with elements such as trenches, sumps, and pits, equipment bases, insulation, moisture barriers, and waterproofing.

A13 FLOORS ON GRADE

This section includes requirements for all types of floors on grade but is focused primarily on concrete slabs. Requirements include provisions for excavation that are necessary to put floors in place, but do not include other types of excavation, such as site grading and excavation for site utilities.

Floors on grade include structural concrete slabs that are poured over fill or at excavated grade, including all depressions in the slab, such as trenches, pits, and sumps. Also included would be floors made up of pavers or wooden floors on sleepers. Floors on grade may be above nominal ground level or may form the floor of basements below grade. Floors on grade also include equipment bases, underslab and perimeter drainage, thermal insulation at floor edge, and moisture barriers installed integrally with floor system.

Floors that are elevated above grade are part of superstructure, specified in Section B.

A19 OTHER FOUNDATION ELEMENTS

This section is an outline for specifying any other foundation elements that do not fit in other sections. No specific elements have been identified for this section.

A2 BASEMENTS

This section includes requirements for all structural elements that enclose habitable space below or partially below grade. Requirements include provisions for excavation that are necessary to put basements in place, but do not include other types of excavation, such as site grading and excavation for site utilities.

Basements comprise the following major elements:

- Basement Excavation: Excavation, excavation supports that become a permanent part of substructure, backfill, and compaction of backfill for basement construction.
- Basement Walls: All elements of wall construction that occur below or partially below grade, including thermal insulation, waterproofing and dampproofing, and subdrainage.
- Basement floor construction is included either under foundations, superstructure, or interior construction, depending on the situation.

A21 BASEMENT EXCAVATION

This section includes requirements for excavation that are necessary to put basements in place, but does not include other types of excavation, such as site grading and excavation for site utilities.

Basement excavation comprises earth removal, excavation supports that become a permanent part of substructure, backfill, and compaction of backfill for basement construction.

Provisions for permanent vertical enclosures are included in Section A22 - Basement Walls. Bottom basement floors are covered under Section A13 - Floors on Grade, and intermediate basement floors are covered in Volume B – Superstructure.

A22 BASEMENT WALLS

This section includes requirements for all wall elements that enclose habitable space below or partially below grade, except for applied interior finishes, which are included under interiors in Volume C - Interiors.

Basement walls comprise structural wall elements, thermal insulation, dampproofing and waterproofing, subdrainage provisions, and other components that are an integral part of basement walls. Basement floor construction is included either under foundations, or superstructure, depending on the situation

A29 OTHER BASEMENT ELEMENTS

This section is an outline for specifying any other basement elements that do not fit in other sections. No specific elements have been identified for this section.

A9 OTHER SUBSTRUCTURE ELEMENTS

This section is an outline for specifying any other substructure elements that do not fit in other sections. No specific elements have been identified for this section.

B SHELL

This section includes requirements that relate to every element in the shell. In some cases, the performance requirements would apply to every element only if the superstructure is exposed to the weather.

If the shell is made up of a single element, such as an air-supported structure, or of integrated components that must be manufactured by the same manufacturer, like a pre-engineered metal building, the requirements for that may be stated in this section.

The following definitions are used to determine the building construction included with this element:

- Shell: The superstructure, exterior enclosure, roofing, and all other elements within the sections of Volume B.
- Superstructure: Floor/deck and roof construction above grade and within basements, and elements required for the support of floors/decks and roofs.
- Exterior Enclosure: All vertical components of the separation between exterior and interior conditioned space, including exterior skin, components supporting weather barriers, and jointing and interfacing components; this does not include interior skin unless it is an integral part of the enclosure.
- Roofing: All components forming the weather and thermal barrier between horizontal and sloped roofs and decks, including roof fixtures.

B1 SUPERSTRUCTURE

This section includes requirements that apply to all elements of floor and roof construction above grade and within basements, and elements required for support, including structural frame and load-bearing walls.

B11 ELEVATED FLOORS

This section covers all types of elevated floors, including balcony, mezzanine, and ramp floors, floors elevated for access, stair construction if part of the superstructure, and roof decks intended for occupant live load.

The principal elements are as follows:

- Structure supporting floors, including structural frame, structural walls, and framing for openings
- Floor decks and slabs, including access flooring and integral finishes; sheathing, and underlayment, including all methods of leveling or smoothing floors not considered finished surfaces
- Vapor retarders, air barriers, and insulation, excluding insulation, etc., on top of deck
- Fireproofing
- Firestopping
- Other floor elements.

B12 ROOFS

This section covers all types of roofs, including canopies.

The principal elements are as follows:

- Structure supporting roofs: Structural frame, structural walls, framing for openings.
- Roof decks and slabs
- Sheathing.
- Vapor retarders, air barriers, and insulation, excluding insulation, etc., on top of deck.
- Fireproofing.
- Firestopping
- Other roof elements.

B19 OTHER SUPERSTRUCTURE ELEMENTS

This section is an outline for specifying any other superstructure elements that do not fit in other sections. No specific elements have been identified for this section.

B2 EXTERIOR ENCLOSURE

This section includes requirements that apply to all non-structural vertical exterior elements, including openings and elements closing or covering openings.

The exterior enclosure is all the vertical (or nominally vertical) components of the separation between exterior and interior conditioned space, including exterior skin, components supporting weather barriers, and jointing and interfacing components. The interior finish of the enclosure is not included unless it is an integral part of the enclosure.

B21 EXTERIOR WALLS

This section includes exterior walls, balcony walls and railings, parapets, joint sealers, air and vapor barriers, insulation, exterior screens (visual), exterior ceilings and soffits and other exterior elements associated with the exterior enclosure and weather barriers.

The interior finish of the exterior wall is not included unless it is an integral part of the wall. See Section C16 - Interior Finishes for interior finishes.

B22 EXTERIOR WINDOWS AND OTHER OPENINGS

This section covers windows and ventilation openings in the exterior wall and protection devices for those openings.

Windows openings include operable and fixed windows used as single units or in multiples. Windows also include storefronts, but do not include entrance doors or curtain walls. See Sections B23 and B2.

Ventilation openings include louvers, vents, grilles, and screens that are not an integral part of the mechanical system.

Protection devices for openings include sun control, privacy, security, insulation and storm protection devices.

B23 EXTERIOR DOORS

This section covers exterior pedestrian doors, vehicular and large doors, special use doors, and exterior gates. The principal elements are door frames, glazing, and hardware, except frames that are an integral part of the exterior wall.

Pedestrian doors include entrance and utility, people-sized doors for personnel passage.

Vehicular and large doors include coiling, sectional, lift and other industrial doors for vehicle and equipment passage.

Special use doors include security, cold storage, and other special function doors.

Exterior gates include swinging, decorative, and security barriers controlling entrance or exit through a wall.

B24 EXTERIOR WALL FIXTURES

This section includes all elements attached to exterior walls. Equipment and service fixtures attached to exterior walls are included in other sections.

The principal exterior wall fixtures offered in this section are signs and flagpoles.

B29 OTHER EXTERIOR WALL ELEMENTS

This section is an outline for specifying any other exterior wall elements that do not fit in other sections. No specific elements have been identified for this section.

B3 ROOFING

This section includes requirements that apply to all elements from the top of deck on up, including "roofing" on exterior floor decks. The principal elements included are as follows:

- **Roof Coverings:** Weather barriers, vapor retarders, insulation, water collectors and conductors, wearing surfaces, trim and accessories, and other roof-covering elements.
- **Roof Openings:** Skylights, ventilation openings, access openings, other elements that close roof openings.
- **Roof Fixtures:** Elements attached to the roof, unless equipment or services; included are signs and flagpoles.

B31 ROOF COVERINGS

This section covers all types of roof coverings, unless they are integral to the roof construction.

The principal elements are as follows:

- **Weather barriers:** Shingles, tiles, panels, membranes. This category includes water- and weatherproofing of plaza decks and balcony floors.
- Vapor retarders and insulation.
- Water collectors and conductors, including gutters, downspouts, scuppers, overflows.
- Wearing surfaces, if separate from weather barrier, including ballast, pavers and exterior 'floor' finishes (e.g. indoor/outdoor carpet).

- Roofing trim and accessories: Elements that form the interface with other building elements; copings, gravel stops, counterflashings, curbs.
- Other roof covering elements.

B32 ROOF OPENINGS

This section covers roof openings and the elements that close those openings, and includes skylights, ventilation openings (for HVAC, fire, smoke, etc.), access openings (hatches, ladders to hatches), and other roof openings.

Fans in roof openings are included in Section D34 - Air Distribution.

B33 ROOF FIXTURES

This section includes all elements attached to the roof, except equipment and services. The principal roof fixtures offered in this section are mounting brackets/frames and screens for services and equipment, signs, and flagpoles.

Equipment and services attached to roof are included in other sections.

B39 OTHER ROOFING ELEMENTS

This section is an outline for specifying any other roofing elements that do not fit in other sections. No specific elements have been identified for this section.

B9 OTHER SHELL ELEMENTS

This section is an outline for specifying any other shell elements that do not fit in other sections. No specific elements have been identified for this section.

C INTERIORS

This section includes requirements that apply to overall interior design as well as to all elements included within the interiors. Interiors comprise the following major elements:

- Interior Construction: All elements necessary to subdivide and finish space enclosed within the Shell, including applied interior surfaces of the Exterior Enclosure.
- Interior Fixtures: All elements attached to interior construction that add functionality to enclosed spaces, except for elements classified as equipment or services fixtures.

C1 INTERIOR CONSTRUCTION

This section includes all the fixed construction on the interior of the building, including partitions, doors, ceilings, stairs, and finishes, but not "fittings" such as cabinets, signs, or window treatments.

C11 PARTITIONS

This section includes interior partitions of the following types: fixed, full-height; partial height; demountable; operable; and visually open barriers such as screens and handrails.

This section does not include structural interior walls, which are part of superstructure.

C12 INTERIOR DOORS

This section covers all types of interior doors. In addition to the doors themselves, this section includes door hardware, frames, and finishes.

Door types included are as follows:

- Pedestrian doors: All "people-sized" doors.
- Large doors: Overhead, etc.
- Special use doors.
- Interior gates.
- Other interior door elements: Elements forming or completing the opening, such as sills and thresholds. (Lintels are specified in Section C1.)

This section does not include provisions for cased openings (see Section C16 - Interior Finishes), cabinetry doors (see Section C22 – Storage Fixtures), access doors (see Section C14 - Other Interior Openings), or elevator hoistway doors (see Section D11 - Elevators and Lifts).

C13 INTERIOR WINDOWS

This section includes both fixed and operable windows for installation in partitions, as well as openings without glazing. It does not include glazed partitions, which are specified in Section C11 - Partitions.

The section includes all components associated with interior windows, such as frames, sills, finished casings, and operating hardware.

C14 OTHER INTERIOR OPENINGS

This section includes all interior louvers and vents not connected to ductwork, such as those installed in doors, partitions, and ceilings for returning air to an adjacent space. Louvers and vents installed as part of ductwork are specified in Section D34 - HVAC Distribution.

This section also includes interior access doors, access panels, and floor hatches, as well as interior expansion joint covers. It includes all components associated with miscellaneous interior openings, such as frames, sills, finished casings, and operating hardware.

Requirements for ordinary interior doors are specified in Section C12 - Interior Doors, and requirements for interior windows are specified in Section C13 - Interior Windows.

C15 STAIRS

This section includes requirements for all building stairs, including exterior stairs and fire escapes attached to the building. However, requirements for exterior stair railings are included under Section B21 - Exterior Walls, and exterior stairs that are detached from the building are included under Section G21 - Pavements and Surfacing.

This section covers the structure supporting stairs and the tread and riser construction itself, unless they are an integral part of the superstructure. It also includes interior stair railings.

All the model building codes include fairly detailed minimum requirements for stairs, based almost completely on safety considerations related to the use of stairs as a means of egress. These requirements include the total number and locations of stairs, minimum widths, allowable construction materials, degree of fire separation, minimum and maximum dimensions of treads and risers, number and characteristics of handrails, and so forth. Even decorative stairs that are not intended as a means of egress are constrained in many respects by the codes for reasons of safety.

Because these minimum code requirements must be met in any event, this section should be used only to describe requirements or features that are in addition to or in excess of code requirements.

C16 INTERIOR FINISHES

This section includes all applied finishes on the interior of the building, including on the interior side of exterior wall elements. Any type of finish used for decoration, acoustics, or durability should be included.

The principal finish types are wall finishes, including wall bases and trim and corner guards and other protection; floor finishes, which excludes access flooring (B11) and includes recessed mat frames; applied ceiling finishes; suspended ceilings and soffits, including exterior soffits that don't form weather barrier; stair finishes; and other finishes.

C19 OTHER INTERIOR CONSTRUCTION

This section is an outline for specifying any other types of interior construction. No specific elements have been identified for this section.

C2 INTERIOR FIXTURES

This section includes elements attached to interior construction that enhance or make possible the full use of the spaces in which they occur. The project program will dictate the need for most of the elements specified. If such fixtures are not specifically mentioned in the project program, they should be described either in this section or in one of the more detailed sections on fixtures, or enumerated by means of an attached list or schedule.

This section does not include furnishings, which by definition are not attached to the building. The section also does not include equipment items or service fixtures, which are specified in Volume D - Services.

Interior fixtures include the following element types:

- Identifying devices, such as signage and directories.
- Storage facilities, such as cabinets and casework, wardrobe and closet fixtures, lockers, and shelving.
- Window treatment, such as blinds and shades, shutters, curtain tracks, and other fixed devices for the control of light, sun, privacy, and view (draperies and curtains are furnishings and are not included).
- Accessory specialty items such as postal fixtures, telecommunications enclosures and mountings, toilet and bath accessories, and visual display surfaces.
- Fixed seating, including auditorium and stadium, education and conference, lounge seating, pews, and benches.
- Other interior fixtures such as service wall systems, planters, ladders, and similar fixed elements not considered equipment or part of a service system.

C21 IDENTIFYING DEVICES

This section includes signs, directories, and other identifying devices that are attached to building interior construction. The project program may dictate the need for most of the elements specified. That means that the scope of signage (what signs to provide where) must be explicitly defined either in the project program or in this section.

The section does not include any type of temporary or portable signage not permanently attached to the building.

- Identifying devices include the following elements:
- Signage made up of individual three-dimensional characters applied directly to walls or doors
- Panel signs with pre-applied lettering, for mounting to walls or doors
- Architectural signs that are wall, floor, or ceiling-mounted
- Cast metal plaques
- Building directories with changeable listings

C22 STORAGE FIXTURES

This section includes several types of storage components that are attached to building interiors but are typically modular and (to some extent) relocatable.

Storage fixtures include but are not limited to the following elements:

- Built-in cabinetry and casework, including countertops, but excluding movable components
- Wardrobe units and closet fixtures such as shelving and hanging rods
- Clothing, athletic, and storage lockers
- Anchored utility shelving, but excluding furniture shelving and high density storage systems
- Other storage fixtures

Furniture shelving units and high density movable storage systems are specified in Volume E.

Storage fixtures and casework for commercial food service are specified in Section E12 – Food Service Equipment.

C23 WINDOW TREATMENT

This section includes several types of control devices for view and natural light that are attached to building interiors. Window treatments apply to both interior and exterior windows. The section does not include elements such as draperies, which are considered furnishings.

Window treatments in this section include the following elements:

- Blinds of various types

- Window shades of various types
- Interior shutters
- Curtain tracks, including both manual and motorized controls
- Other types of window treatment

Curtains and draperies would be specified in Volume E.

C24 ACCESSORY FIXTURES

This section includes commonly encountered fixtures that are attached to building construction. Some, like toilet accessories, may not be mentioned in the project program at all. Others may be fully defined in the project program, making it unnecessary to include any description here. The section does not include any type of portable fixtures not permanently attached to the building.

Accessory fixtures include the following elements:

- Toilet, bath, and laundry accessories, including these items if used in other types of rooms, such as kitchens.
- Mailboxes and other postal specialties, except U.S. Post Office prescribed fixtures for post offices (those would be included in Volume E).
- Telecommunications fixtures – the mountings and enclosures for telephones, public fax machines, etc. The phone equipment is not specified in this section.
- Visual display surfaces, mostly boards, including chalkboards, tackboards, erasable marker boards, magnetic boards, and projection screens. Projection equipment is specified in Section E.

C25 FIXED SEATING

This section covers all types of fixed seating.

Five generic types of seating are defined in this section for convenience in identifying different types on any project. For each type, it is possible to define more than one level of comfort - width, depth, resilience (padding), pitch (slope) of back and seat, and height of seat and back.

The five types are as follows:

- Audience Seating: Seats with backs, usually in closely spaced rows; may be any type from padded auditorium type to stadium seating; default seat pitch of 5-8 percent; may tilt (rocker action) but not swivel.

- Conference Seating: Same as audience seating, with optional tablet arm or table and underseat book rack; default seat pitch of 2-3 percent; may tilt and/or swivel.
- Lounge Seating: Fixed chair-style seating; any level of comfort; default seat pitch of 5-8 percent. Specify movable lounge seating in Section E2 - Furnishings.
- Pews: Benches with backs and optional ends, usually arranged in rows for audience purposes; may be specified with either flat seats or contoured seats with default seat pitch of 1-2 percent.
- Benches: With or without backs or arms; may be specified with either flat seats or contoured seats with default seat pitch of zero.

C29 OTHER INTERIOR FIXTURES

This section is an outline for specifying any other types of interior fixtures. Some possible items are as follows:

- Service wall fixtures.
- Planters.
- Ladders.

It would also be helpful to check in Volume E for items that could be classified as either fixtures or equipment.

NOTE: Not included in initial content set

C9 OTHER INTERIORS ELEMENTS

This section is an outline for specifying any other types of interior elements that do not fit in other sections. No specific elements have been identified for this section.

D SERVICES

This section includes requirements that apply to all types of services in the project, whether inside or outside buildings. Services are defined as any mechanized, artificial, or unattended means of accomplishing a functional need, as opposed to manual or human-powered means or fixed elements that accomplish the same function. The principal services involved in buildings are included, as follows:

- Conveying Systems (elevators, escalators, etc.)
- Water and Drainage (domestic water, sanitary drainage, and rain water drainage)
- HVAC (heating, ventilating, air-conditioning, and controls)

- Fire Protection (sprinklers, standpipes, fire alarm, smoke control, extinguishers, and special systems)
- Electrical Power (supply, distribution, and branch circuits)
- Artificial Lighting (interior, exterior, athletic, and special purpose)
- Telecommunications (voice and data, sound reinforcement, and television)
- Process Utilities (industrial, compressed air, medical gas, special waste, etc.)
- Other Services (integrated facility controls, surveillance and security controls, special grounding, and cathodic protection)

The site services sections in Volume G are intended for use if there is extensive site utility work is required or if the project is a "campus" and, therefore, include only those aspects involved in such work. If neither condition is true, all services should be described in Volume D.

D1 CONVEYING SYSTEMS

This section includes requirements that apply to all types of vertical and horizontal conveying systems for moving people and objects.

Vertical people movement elements include elevators, vertical and inclined lifts, and escalators.

Vertical freight movement elements include freight elevators, vehicle elevators, sidewalk elevators, and dumbwaiters.

Horizontal movement elements include moving walks.

Lifts at loading docks are in Section E11 - General Equipment.

Devices for conveying waste (trash) are in Section E11.

Devices such as swingstages and lifts for window washing are in Section E11.

Stage lifts would be in Section E14 - Institutional Equipment as theater and stage equipment.

Lifts for raising vehicles for service (garage lifts) would be in Section E19 - Other Equipment as vehicular service equipment.

Specialized materials handling devices, such as hoists, cranes, turntables, pneumatic tubes, and conveyors are not currently included in the scope. They can be added using Section D19 - Other Conveying Systems Elements.

D11 ELEVATORS AND LIFTS

This section includes electric (or traction) elevators and hydraulic elevators for passengers and freight, sidewalk freight elevators, and vertical and inclined wheelchair lifts and stairway chairlifts.

Elevator requirements include fixtures in shafts and pits, car and hoistway doors. Car and hoistway door finish requirements are referenced to Section C16 - Interior Finishes.

Hoistways for elevators are either part of superstructure, specified in Volume B - Shell, or interior construction, specified in Volume C - Interiors.

Elevator pits are typically part of substructure, specified in Volume A.

Dock lifts are included in Volume E.

D12 ESCALATORS AND MOVING WALKS

This section includes electric stairways and walkways for moving passengers.

D13 DUMBWAITERS

This section includes electric (traction), hydraulic, and hand-powered dumbwaiters for moving relatively small items vertically between floors.

Dumbwaiter requirements include fixtures in shafts and pits, and dumbwaiter car and car fixtures. For powered dumbwaiters, requirements for powered hoistway doors are included. For manual dumbwaiters and manual doors on powered dumbwaiters, doors are part of interior construction.

Hoistways for dumbwaiters are either part of superstructure, specified in Volume B - Shell, or interior construction, specified in Volume C - Interiors.

D19 OTHER CONVEYING SYSTEMS ELEMENTS

This section is an outline for specifying other types of conveying systems that do not fit in other sections.

Some types of systems that might be specified in this section are:

- Pneumatic tubes
- Cranes and hoists
- Baggage conveyors
- Transportation systems

- Scaffolding

NOTE: Not included in initial content set

D2 WATER AND DRAINAGE

This section includes more detailed requirements for water and drainage services. "Water and drainage " is defined as the delivery of water (hot and cold domestic water) to points of utilization and the removal of water, rain water, and liquid waste.

Specific elements included are plumbing fixtures, domestic water, sanitary waste and vent, rain water drainage, and other miscellaneous plumbing systems that involve provision of water.

D21 WATER SUPPLY

This section includes more detailed water supply requirements for occupants' and building equipment use, including fire protection systems.

D22 PLUMBING FIXTURES

This section includes more detailed requirements for plumbing fixtures, including restroom fixtures, bathing fixtures, cooking and cleaning fixtures, drinking fountains and water coolers.

Institutional fixtures, such as emergency eye and shower wash stations, are not currently included.

D23 DOMESTIC WATER

This section includes more detailed requirements for domestic water distribution systems, including fixtures, pipes, fittings, and equipment necessary for water heating, storage, and distribution

D24 SANITARY WASTE

This section includes more detailed requirements for sanitary waste and vent systems, including pipe, fittings, and equipment necessary for the removal of water and waste materials from the building drainage system to a public or private sewer system. Associated elements include drains, interceptors and separators, and sewage pumps.

See Section G32 –Sanitary Sewer for private sewer systems, including septic tanks and fields and packaged waste treatment plants, and waste water treatment facilities.

D25 RAIN WATER DRAINAGE

This section includes more detailed requirements for the drainage and disposal of rain water and clear wastes from roofs and other areas of the building.

Clear wastes include condensate and cooling water and some floor drains where a large amount of uncontaminated water is used. The local code usually determines what is clear waste, based on local needs to eliminate unnecessary loads on the sanitary sewer system.

Miscellaneous locations that must be drained include courtyards and areaways, parking decks, balconies, and entrances to basements and cellars.

See Section G33 - Storm Sewer for site storm water drainage.

D29 OTHER WATER AND DRAINAGE ELEMENTS

This section includes more detailed requirements for water and drainage elements that do not fit clearly in Sections D21 - Water Supply, D22 - Plumbing Fixtures, D23 - Domestic Water, D24 - Sanitary Waste, or D25 - Rain Water Drainage. The section includes swimming pool supply, treatment, filtering, and drainage; fountain supply, devices for decorative water effects, and drainage; and supplementary drinking water, such as bottled water.

Natural gas piping, fuel oil piping and tanks which are commonly considered "plumbing" have been specified in Section D31 - Energy Supply.

The following elements commonly considered "plumbing" would be included in Section D8 -Process Utilities, because they relate to the operations of the primary function of the building:

- Industrial and laboratory water - deionized, distilled, etc. (D81 - Process Water)
- Laboratory and acid waste (D82 - Process Waste)
- Compressed air, vacuum, and medical gas (D83 - Process Gases)

D3 HVAC - HEATING, VENTILATING, AND AIR CONDITIONING

This section includes more detailed requirements for all elements of an HVAC system. HVAC is defined as artificial means of maintaining interior space comfort and air quality. Elements included are energy supply: heat generation, refrigeration, air distribution, hydronic and steam distribution, HVAC controls, and other HVAC elements.

Related elements not included are as follows:

- Process HVAC (any HVAC that relates to processes within the building, rather than space comfort): Section D8 – Process Utilities or Section D85 – Process HVAC

- Building automation and other combined control systems: Section D91 - Integrated Facility Controls

D31 ENERGY SUPPLY

This section includes more detailed requirements for energy sources associated with heating and cooling the building. Energy sources currently included are natural gas, liquefied petroleum, and No.2 diesel fuel oil. Other energy sources can be added.

D32 HEAT GENERATION

This section includes more detailed requirements for heat generation equipment. Elements specifically included are boilers and furnaces.

D33 REFRIGERATION

This section includes more detailed requirements for refrigeration equipment for building cooling. Elements included are water chillers; cooling towers; and refrigerant units, such as condensing units, packaged terminal air conditioners, heat pumps, and evaporative coolers (swamp coolers).

D34 AIR DISTRIBUTION

This section includes more detailed requirements for air distribution systems (supply, return, and exhaust) and ventilation associated with heating and cooling the building.

D35 HYDRONIC AND STEAM DISTRIBUTION

This section includes more detailed requirements for heating and cooling hydronic systems, and steam and condensate systems, and refrigerant systems associated with heating and cooling the building.

D36 HVAC CONTROLS

This section includes more detailed requirements for controls and instrumentation to monitor and control the equipment associated with heating and cooling the building.

The building's indoor environment may be controlled by a single thermostat, by a very comprehensive building control system, or something in between these two extremes.

D39 OTHER HVAC ELEMENTS

This section includes more detailed requirements for HVAC elements that do not fit in the other D3 sections. Specific elements included are dehumidifiers and energy recovery units. Other elements associated with heating and cooling the building can be added.

D4 FIRE PROTECTION

This section includes requirements that relate to all types of fire protection. Fire protection is defined as automatic fire detection, suppression, and warning; automatic smoke control; and artificial measures that contribute to effective manual fire fighting.

If compliance with the requirements of the code is sufficient, this section and its lower level sections are not needed. Compliance with the code is specified in Section 111 – Facility Performance. An optional description of the level of protection required is included for use if neither the code nor the project program includes such a description. The principal elements of fire protection are fire sprinkler and extinguishing systems, standpipes and hoses, fire detection and alarm, smoke control, and fire protection specialties.

See Section G31 – Water Supply for site elements of fire protection. See Volumes A, B, and C for aspects of building elements that reduce the likelihood of fires or contribute to containment of fires.

D41 FIRE SPRINKLER AND EXTINGUISHING SYSTEMS

This section includes more detailed requirements for sprinkler systems that use water to extinguish fires and other types of automatic extinguishing systems. The most common types are wet-pipe, dry-pipe, pre-action, and deluge fire sprinkler systems. Refer to NFPA 13 “Standard for the Installation of Sprinkler Systems” for an explanation of each.

The applicable building code specifies whether a fire sprinkler system is required for the project. However, the local fire marshal, the authority having jurisdiction, and the insurance underwriter should be consulted regarding their requirements, because their requirements often exceed the base building code requirements.

It is intended that this section be used alone or with Section D42 depending on whether the building has only a standpipe system or both a standpipe and sprinkler system.

Elements included are pipes, valves, sprinklers, fire department connections, hoses, and cabinets.

The basic requirements of specialized extinguishing systems, such as clean agent, carbon dioxide, foam, dry chemical, etc., are also included in this section. These systems are usually required only to protect specific contents, such as sensitive goods or equipment.

D42 STANDPIPE AND HOSE SYSTEMS

This section includes more detailed requirements for standpipes and standpipe and hose systems used by the fire department, trained personnel, and building occupants to control and extinguish fires in the building.

Elements included are pipes, fittings, fire department connections, water supply (unless described in Section G31 - Water Supply), valves, hoses, and cabinets.

D43 FIRE DETECTION AND ALARM

This section includes more requirements for detection and alarm systems as commonly required by code and optional features beyond that required by code. This section assumes that an NFPA 72 alarm system is required (that is, that an alarm system other than manual pull stations is actually required).

In addition to fire and smoke detection, detection of other hazards can be included in this section, with integration into the alarm system.

If the code minimums are sufficient, it is unnecessary to use this section, because the code has already been made part of the basic requirements in Section 111 - Facility Performance.

D44 SMOKE CONTROL

This section is an outline for specifying smoke control elements in excess of those required by code.

NOTE: Not included in initial content set

D45 FIRE PROTECTION SPECIALTIES

This section includes more detailed requirements for equipment that facilitates manual fire fighting by the occupants of the building, including portable fire extinguishers, fire blankets, and cabinets to hold them. The requirements for this type of equipment are mandated by the code, required by the insurer as a condition of certain rate structures, or by the owner's preference for more precautions than required by either the code or the insurer. If the requirements of the code are sufficient, this section is not actually needed, because compliance with the code is specified in Section 111 – Facility Performance.

None of the three model code families (BOCA National Building Code, ICBO Uniform Building Code, and SBCCI Standard Building Code) rely on fire extinguishers for any significant fire suppression. Automatic sprinklers and other automatic extinguishing systems are required by these codes to a greater extent than portable fire extinguishers. Typically, these codes require portable extinguishers in particularly sensitive occupancies (where more people might get hurt and the occupants do not typically control the fire fighting). Under the Standard Building Code and Uniform Fire Code extinguishers are required only for detention occupancies. The BOCA codes and the Life Safety Code include more occupancies. In addition, these codes all require extinguishers in the immediate vicinity of particularly hazardous contents, such as in commercial kitchens, near gasoline dispensing stations, and wherever hazardous industrial processes are involved. The codes that contain these requirements are as follows:

- ICBO Uniform Fire Code (not the Uniform Building Code)
- BOCA National Building Code and National Fire Prevention Code
- SBCCI Standard Fire Prevention Code (not the Standard Building Code)
- NFPA 101, The Life Safety Code.

A major insurer that has specific requirements is the Factory Mutual System, which has aggressive prevention programs for its industrial insureds.

D49 OTHER FIRE PROTECTION ELEMENTS

This section is an outline for specifying elements of fire protection that do not fit in other sections. Currently, no specific elements are identified for this section.

Special extinguishing systems, such as clean agent, carbon dioxide, foam, or dry chemical, are included in Section D41 - Fire Sprinkler and Extinguishing Systems .

D5 ELECTRICAL POWER

This section includes more detailed requirements that apply to all electrical power elements. Electrical power (as a service) is defined as all the power required to properly operate the electrically operated devices required by the project program and those required for operation of other services.

Electrical power elements include electrical energy generation (normal, emergency, and standby), service and distribution, and branch circuits.

Traditional "electrical" services such as lighting, telecommunications, and special systems are covered in other sections.

D51 ELECTRICAL ENERGY GENERATION

This section includes more detailed requirements for generation of electrical energy. Specific elements included are emergency and standby power systems involving emergency and standby generators, uninterruptible power supplies, and batteries.

Normal power requirements are referenced to Section D - Services, for commercial power (power furnished by the electric power utility company), or to Section G34 - Electrical Power, for major private generation or site transmission.

D52 SERVICE AND DISTRIBUTION

This section includes more detailed requirements for the distribution of electrical power from the source to branch circuit panelboards.

If the source is from a utility company, this section will cover high- and medium-voltage transformers, which can be furnished either by the utility company or the owner.

Inside the building, equipment that may be involved includes main switchboards, transformers, panelboards, and circuit breakers and other devices.

See Section G34 - Electrical Power for both overhead and underground distribution lines outside the building, as well as substations and other major equipment that normally is found outdoors.

D53 BRANCH CIRCUITS

This section includes more detailed requirements for branch circuits, including receptacles and fixtures.

D59 OTHER ELECTRICAL POWER ELEMENTS

This section is an outline for specifying other elements of electrical power systems that do not fit in other sections. Currently no specific elements are identified for this section.

D6 ARTIFICIAL LIGHTING

This section includes requirements for all types of artificial lighting. Artificial lighting includes the following:

- Interior Lighting: General lighting, accent lighting, and emergency lighting (including exit signs). Portable lamps, if acceptable for required lighting, would also be included.
- Exterior Area Lighting: Roadway, walkway, and parking lighting
- Athletic Lighting: Recreation and sports, both interior and exterior

- Other Artificial Lighting: Special purpose lighting, including, theatrical, stage, operating rooms, darkrooms, underwater, decorative or outline.
- Portable lamps required for purposes not defined in this section should be specified in Section E21 - General Furnishings.

D61 INTERIOR LIGHTING

This section covers interior lighting, including fixtures and lighting control. Elements included are general lighting, accent lighting, emergency lighting, and lighted exit signs.

Interior lighting of athletic activities is in Section D63 - Athletic Lighting. Other special purpose interior lighting may be specified in Section D69 - Other Artificial Lighting Elements.

D62 EXTERIOR AREA LIGHTING

This section covers lighting for outdoor areas such as roadways, parking lots, walkways, and general open areas, both for general illumination purposes and for improved security.

Lighting for exterior athletic activities is covered in Section D63.

Decorative structure and landscape lighting, intended primarily for enhancing the nighttime appearance of buildings, plantings, and landscape features, would be covered in Section D69 - Other Artificial Lighting Elements.

D63 ATHLETIC LIGHTING

This section covers exterior and interior lighting for athletic activities.

Because of advances in illuminating engineering design and technology, sporting events are increasingly played and attended at night. Light source efficacies have more than doubled in the last decade, permitting reduced energy costs even with higher illumination levels.

D69 OTHER ARTIFICIAL LIGHTING ELEMENTS

This section is an outline for specifying other elements of artificial lighting that do not fit in other sections.

Special requirements to ensure effectiveness of security surveillance should be covered in Section D92 - Surveillance and Security Controls.

Some types of special purpose lighting that might be specified in this section are as follows:

- Darkroom lighting, if not included with darkroom equipment in Section E19 - Other Equipment

- Underwater lighting, at pools and fountains
- Theatrical and stage lighting, if not included with theater and stage equipment in Section E14 - Institutional Equipment
- Operating room lighting, if not included with medical equipment in Section E14
- Decorative structure and landscape lighting, intended primarily for enhancing the nighttime appearance of buildings, plantings, and landscape features.

Portable lighting elements, such as table and floor lamps, should be specified in the appropriate section in Volume E. Section E21 - General Furnishings would be most likely.

D7 TELECOMMUNICATIONS

This section covers all telecommunications elements, including voice and data (telephone, intercom, and computers), sound reinforcement (public address and music systems), and television (broadcast reception, cable, and closed circuit).

Voice communication for special purposes, such as nurse call, etc., would be included in Section D87 - Process Telecommunications.

Television and communications for security are included in Section D92 - Surveillance and Security Controls.

D71 VOICE AND DATA

This section covers telephone, facsimile, and computer data transmission networks, within and between buildings.

Computers and other very specialized equipment are not specified in this section, because such a great variety is available, the technology is changing so fast, and these items are commonly furnished by the owner.

D72 SOUND REINFORCEMENT

This section covers public address and music, including paging.

These functions can also be part of the telephone system and/or the security system, and some public address functions are required as part of the fire alarm system. No "overlap" exists between these systems, because these sound reinforcement functions are not described in other sections. If it is necessary, rather than optional, that sound reinforcement be integrated into one or more of those other systems, include the statements to that effect.

D73 TELEVISION

This section covers television reception and distribution, including broadcast, cable, and closed circuit.

Closed circuit video monitoring for security is included in Section D92 - Surveillance and Security Controls.

Television projection for audiovisual presentation is included in this section. Corresponding projection surfaces are included in Section C24 - Accessory Fixtures.

D79 OTHER TELECOMMUNICATIONS ELEMENTS

This section is an outline for specifying other elements of telecommunications that do not fit in other sections. Currently no specific elements are identified for this section.

D8 PROCESS UTILITIES

This section is an outline for specifying process utilities.

Process utilities are defined as services that perform specific functions related to the primary purpose for existence of the building. For example, distilled or deionized water for laboratory use would be a process utility rather than a water or drainage service (D2), even though it is often thought of as a plumbing element. More obviously, all industrial processes would be included in this category.

NOTE: Not included in initial content set.

D81 PROCESS WATER

This section is an outline for specifying process water elements.

Some examples of process water systems and elements are deionized water and distilled water.

NOTE: Not included in initial content set.

D82 PROCESS WASTE

This section is an outline for specifying process waste elements.

Some examples of process waste systems and elements are acid waste for laboratories and specialized treatment of industrial waste.

NOTE: Not included in initial content set.

D83 PROCESS GASES

This section is an outline for specifying process gas elements.

Some examples of process gas systems and elements are compressed air and medical gas.

NOTE: Not included in initial content set.

D84 PROCESS FUELS

This section is an outline for specifying process fuel elements.

Some examples of process fuel systems and elements are gasoline dispensing for motor vehicle fueling and industrial natural gas distribution.

NOTE: Not included in initial content set.

D85 PROCESS HVAC

This section is an outline for specifying process HVAC elements.

Some examples of process HVAC systems and elements are liquid coolers for industrial equipment cooling and special industrial exhaust.

NOTE: Not included in initial content set.

D86 PROCESS FIRE PROTECTION

This section is an outline for specifying process fire protection elements.

Some examples of process fire protection systems and elements are special extinguishing systems in dust collection ducts and industrial equipment fire extinguishing.

NOTE: Not included in initial content set.

D87 PROCESS TELECOMMUNICATIONS

This section is an outline for specifying process telecommunications elements.

Some examples of process telecommunications systems and elements are nurse call systems and doctors' register systems.

NOTE: Not included in initial content set.

D88 PROCESS MEASUREMENT AND CONTROL

This section is an outline for specifying process measurement and control elements.

Some examples of process measurement and control systems and elements are industrial control systems, transportation control systems, and recording instrumentation.

D89 OTHER PROCESS UTILITIES ELEMENTS

This section is an outline for specifying other process utilities elements.

Some examples of process utilities systems and elements that might be included are EMI/RFI shielding for protection of internal operations or equipment.

NOTE: Not included in initial content set.

D9 OTHER SERVICES

This section includes requirements that apply to all types of services that do not clearly fall into any of the other categories. In this respect, services are defined as "mechanized, artificial, automatic or unattended means of accomplishing a functional need, as opposed to manual or human-powered means or fixed, non-moving elements without moving parts or electrical inputs." Most services in this section will be combinations of several services or services that assist non-services elements in their function.

Specific services included are as follows:

- **Integrated Facility Controls:** Centralized monitoring and operation of services and non-services elements. This section refers to D3 for HVAC controls, D5 for electrical measurement and control, D1 for conveying system controls, Volumes B and C for door and window controls, etc.
- **Surveillance and Security Controls:** Intrusion detection, access control, parking control, and visual and auditory monitoring. This section refers to Volumes B and C for physical barriers, doors, windows, etc.

- Special Grounding Systems: Supplementary systems for safely grounding lightning strikes, accidental contact between metal structures and power transmission lines, and stray currents in metal elements that might adversely affect electronic equipment. This section refers to Section 111 for basic lightning protection requirements, to D5 for electrical power system grounding, and D7 for telecommunications grounding.
- Cathodic Protection: Prevention of corrosion of underground metal structures, pipelines, and tanks by means of galvanic or impressed current cathodic protection. This section refers to other volumes for basic requirements for corrosion resistance of foundations (Volume A) and site structures (Volume G).

D91 INTEGRATED FACILITY CONTROLS

This section is an outline for specifying facility controls that combine two or more other control systems. For example, building automation systems (BAS) usually combine HVAC controls with security and access control and sometimes elevator controls. This section should be used to specify the degree to which the separate control systems specified in other sections are to be integrated, for automatic (programmed) control and for remote operation.

NOTE: Not included in initial content set.

D92 SURVEILLANCE AND SECURITY CONTROLS

This section covers all types of surveillance and security control systems.

Elements included are visual monitoring (cameras), door status monitoring, keyless entry control, remote locking/unlocking, parking controls, and related voice communication and public address.

An essential element of the definition of performance of security controls is the definition of secure zones in the building or project. See Section 111 - Facility Performance for those definitions, which should be customized to the project.

D93 SPECIAL GROUNDING SYSTEMS

This section covers all grounding systems that are not associated with protection of electrical power or telecommunications systems.

Grounding types included are as follows:

- Lightning protection, when building structural elements cannot perform that function. See Section 111 – Facility Performance for the primary requirements for lightning protection.

- Metal fence grounding, if required, and if lightning protection of such fences is not specified
- Grounding of raised access floors, to reduce or eliminate transient currents that might interfere with electronic equipment

Related elements included in other sections are as follows:

- Electrical Power (Section D5): Electromagnetic-interference and radio-frequency interference filtering, surge arresters or suppressors, and power conditioners.
- Telecommunications (Section D7): Electromagnetic-interference and radio-frequency interference shielding and filtering; surge arresters or suppressors; power conditioners.

D94 CATHODIC PROTECTION

This section covers supplementary cathodic protection of underground metal structures, pipelines, and tanks for the purpose of prevention of corrosion. This section is not necessary if the design does not include metal underground that is not protected by concrete encasement. In the United States, underground metal petroleum and other storage tanks are required to have cathodic protection by 40 CFR 280.

Two methods are available, galvanic anodes or impressed current.

Refer to other volumes for basic requirements for corrosion resistance of foundations (Volume A) and site structures (Volume G).

D99 OTHER SERVICES ELEMENTS

This section is an outline for specifying services elements that do not fit in other sections. Currently no specific elements are identified for this section.

E EQUIPMENT AND FURNISHINGS

This section covers all types of fixed and movable equipment and furnishings that might occur in any building type.

The basic requirement to provide equipment or furnishings will be dictated by the project program. Building codes do not generally require the provision of equipment or furnishings. If the program does not completely define these items, do so in this section or other Volume E sections or prepare a separate schedule (or list).

Equipment is generally defined as mechanized or electrical devices, other than "equipment" that is part of a service system (HVAC, electrical, etc.). However, the distinction between "fixtures" (found in Volume C) and equipment is not clearly established. Fixtures generally are attached to the building and mostly do not have electrical or plumbing connections. Equipment is more often something that helps the occupant perform his or her primary function in the building, rather than something that would be found in buildings of virtually any type. Equipment may be completely non-powered and non-plumbed, functioning under manual power only, and can be movable. On the other hand, furnishings are always loose and non-powered and non-plumbed, mostly without any moving parts.

Specific items not found in this volume are fixtures specified in Sections C2 - Interior Fixtures through C29 - Other Interior Fixtures; signs and directories; fixed storage shelving, cabinets, and lockers; window treatments; visual display surfaces (chalkboards, tackboards, projection screens, etc.); postal fixtures; telecommunications fixtures (booths, etc.); toilet, bath, and laundry accessories; and fixed seating.

Parking control equipment is specified in Section D92- Surveillance and Security Controls.

E1 EQUIPMENT

This section covers requirements that are common to all types of equipment found in any type of building, other than equipment for specific services functions (found in Volume D).

E11 GENERAL EQUIPMENT

This section covers utilitarian equipment types that might occur in a building of any occupancy. The principal elements are those required for maintenance functions, notably loading and unloading, solid waste removal, window washing, working on roofs, and vacuum cleaning.

Because the actual configuration of the building will determine what equipment is required, the functions are defined by performance. If the design requires them, the following items of equipment would be covered by this section:

- Loading dock equipment (levelers, lifts, seals, bumpers)
- Solid waste handling and disposal equipment (chutes, compactors, bins, waste receptacles)
- Window washing swing staging and anchors for boatswain's chairs
- Anchorage systems for working on the roof

E12 FOOD SERVICE EQUIPMENT

This section includes all types of food service equipment and fixtures, but not movable items that do not require electrical power or plumbing (those would be furnishings). Types of equipment included are as follows:

- Refrigeration Equipment (including prefabricated cold rooms)
- Storage Equipment: For food, equipment, and utensils (including mobile equipment)
- Food Preparation Equipment (including appliances)
- Serving Equipment, such as hot and cold tables, tray lines
- Cleaning Equipment, such as dishwashers and disposers
- Exhaust Hoods and Fans: Fire suppression requirements are referenced to Section D41 - Fire Sprinkler and Extinguishing Systems

Additional requirements for the interior finishes of food service rooms and spaces are included in Sections C - Interiors, C1 - Interior Construction, and C16 - Interior Finishes.

NOTE: This equipment is what is generally referred to as "commercial" or "institutional" equipment, but the requirements can cover any types of food equipment if used in one of those environments: specifically, residential kitchen appliances and unit kitchens. Residential appliances for residential purposes are specified in Section E15 – Residential Equipment.

E13 COMMERCIAL EQUIPMENT

This section is an outline for specifying equipment, for functions that are primarily commercial, involving sales, display, financial transactions, and office activities. Some elements that might be included are as follows:

- Checkroom Equipment
- Display Equipment; e.g., display cases, refrigerated display
- Laundry and Dry Cleaning Equipment (except residential and institutional)
- Office Equipment; e.g., computers, copiers, printers
- Registration Equipment
- Safe and Vault Equipment; e.g., vault doors, safes, safe deposit boxes
- Teller and Point-of-Sale Equipment; e.g., pass-thrus, ATM's, cash registers, scales.
- Vending Equipment; e.g., change machines, vending machines.
- Other Commercial Equipment

NOTE: Not included in initial content set.

E14 INSTITUTIONAL EQUIPMENT

This section is an outline for specifying requirements for equipment for typically non-commercial functions, principally for educational, religious, health care, and civic facilities. Elements that might be included are as follows:

- Ecclesiastical Equipment; e.g., baptisteries, chancel fittings
- Library Equipment; e.g., book theft, study carrels, book depositories, specialized book shelving
- Theater and Stage Equipment; e.g., stage curtains, rigging, portable stages. This may include lighting.
- Instrumental Equipment; e.g., organs, carillons, bells
- Detention Equipment; e.g., doors and hardware, bars, cell furnishings
- Laboratory Equipment; e.g., fume hoods, sterilizers, emergency washes
- Medical Equipment; e.g., sterilizers, radiology, therapeutic. Operating room lighting may be in this section or in Section D69 - Other Artificial Lighting Elements. X-ray protection should be described in Section C - Interiors or C1 - Interior Construction.
- Mortuary Equipment
- Other Institutional Equipment.

NOTE: Not included in initial content set.

E15 RESIDENTIAL EQUIPMENT

This section covers equipment used in private residential occupancies; hotels, motels, convents, monasteries, and dormitories; and residential functions of other occupancies. Included are fireplaces and stoves, built-in or large freestanding kitchen appliances, laundry appliances, and other specialty items such as steam baths and saunas.

Kitchen cabinetry is specified in Volume C - Interiors.

Other items such as disappearing stairs, built-in ironing boards, and laundry chutes can be added to this section.

E19 OTHER EQUIPMENT

This section is an outline for specifying requirements for all other types of equipment, including the following:

- Agricultural Equipment
- Animal Care Equipment: e.g. For kennels and animal shelters
- Aquatic Facility Equipment; e.g., for pools, water slides, aquariums
- Athletic and Recreational Equipment; e.g., gym, exercise, scoreboards, sauna, steam room, tennis nets, bowling
- Darkroom Equipment; e.g., revolving doors, processing equipment, transfer cabinets
- Ice Rink Equipment; e.g. freezing equipment
- Industrial Equipment: This includes control systems. (Coordinate with Section D8 - Process Utilities.)
- Observatory and Planetarium Equipment
- Recording Instrumentation: Seismic, stress, weather
- Vehicular Service Equipment; e.g., washing, fuel, repair. Including gasoline storage tanks
- Other Equipment Elements

See Section E14 - Institutional Equipment for therapeutic equipment.

See Section E15 - Residential Equipment for steam rooms and saunas for residential purposes.

See Sections G3 - Site Services, G31 - Water Supply, and G32 - Sanitary Sewer for water and fluid waste treatment equipment.

NOTE: Not included in initial content set.

E2 FURNISHINGS

This section is an outline for specifying requirements that relate to all types of loose furnishings.

NOTE: E2 and its lower level sections are not included in initial content set

E21 GENERAL FURNISHINGS

This section is an outline for specifying requirements that apply to furnishings that would be found in buildings of any type of occupancy.

Relevant elements include the following:

- Rugs and mats (including foot grilles, chair mats)
- Curtains; e.g. draperies, cubicle curtains
- Furniture; e.g. chairs, tables, housekeeping carts
- Interior Plants: Plants, planters, artificial plants
- Portable Lamps
- Accessories; e.g. artwork, waste baskets, clocks
- Other General Furnishings

NOTE: Not included in initial content set.

E22 FOOD SERVICE FURNISHINGS

This section is an outline for specifying requirements that apply to food service furnishings.

Relevant elements include furniture; e.g., tables, chairs, serving carts; tableware; cookware; and other food service furnishings.

NOTE: Not included in initial content set.

E23 COMMERCIAL FURNISHINGS

This section is an outline for specifying requirements that apply to commercial furnishings, other than general furnishings.

NOTE: Not included in initial content set.

E24 INSTITUTIONAL FURNISHINGS

This section is an outline for specifying institutional furnishings, mostly furniture.

Relevant elements include hospital beds, school desks, and library files.

NOTE: Not included in initial content set.

E25 RESIDENTIAL FURNISHINGS

This section is an outline for specifying residential furnishings.

NOTE: Not included in initial content set.

E29 OTHER FURNISHINGS

This section is an outline for specifying other types of furnishings, including accessories.

NOTE: Not included in initial content set.

F DEMOLITION

This section covers demolition and removal of existing elements. All types of demolition are covered here, whether complete removal of an existing building or partial demolition or removal of site elements. Special requirements for existing hazardous materials that might be encountered are included. Hazards that are specifically addressed are asbestos, lead-based paint, PCB's, and underground petroleum storage tanks.

If the owner will have all demolition accomplished under another contract, do not include this section. Instead, include a statement to that effect in Section 00830 - Design and Construction Procedures, under the heading EXECUTION, Work by owner.

OWNER: If the design-builder will be responsible for determining what must be demolished or relocated, based on his or her design, you need to say very little about demolition. If you wish to require the design-builder to demolish something specific or limit his or her options, such as requiring preservation of certain elements of an existing structure, do so in Section 1 - Program Summary, under the heading of Existing Conditions. In that location you can say virtually anything you need to about the existing structure, or, if you wish, you can go into more detail in this section.

In each section in Volumes A-G, specific removal and preservation requirements for that element of the work can be specified, under Methods of Construction.

Use Section 00830 - Design and Construction Procedures to describe elements to be salvaged for the owner's use other than for this project. Section 00830 also describes limitations on construction procedures that relate to demolition, as well as to general construction.

Use Section G13 – Hazardous Waste Remediation for extensive hazardous waste remediation, such as that required for environmental cleanup.

G SITEWORK

This section includes requirements that apply to all types of sitework related to building construction, including the following:

Site Preparation: Clearing, demolition, earthwork, and hazardous waste remediation.

Site Improvements: Paving and surfacing, fixtures and equipment, and landscaping, including irrigation. (Indoor plants and irrigation are also covered.)

Site Services: The outdoor and underground elements required to complete the design of services defined in Volume D - Services; principally utility structures and equipment items that are always located outdoors.

Other Site Construction: Miscellaneous elements, including service tunnels.

Projects that involve extensive civil engineering can be accommodated in Volume G, but may require addition of specific requirements for non-building elements.

NOTE: The G sections cover only site work incorporated into the final project. Temporary work, such as construction fences, space for field offices, temporary roads, etc., should not be described in the G sections, but instead in Section 00830 - Design and Construction Procedures. If the design-builder must describe these features in order to contract for their construction, they should be described in Section X01 - General Requirements.

G1 SITE PREPARATION

This section includes requirements that relate to all types of site preparation. Site preparation includes clearing, demolition, relocations, hazardous waste remediation, and earthwork.

Requirements for erosion and sediment control, both temporary and permanent, are included in site preparation, as well as in site improvements (as in landscaping).

G11 CLEARING

This section includes removal of vegetation, trash, and existing items not required for the project. Other than temporary erosion control structures, no "built" elements are included in this section. Most performance requirements for this type of work are already specified in Sections G - Sitework and G1 - Site Preparation.

Extent of preservation or salvage of existing vegetation should be described in Section G23 - Landscaping, unless already covered by Section 1 - Program Summary.

Removal of existing construction can be included in this section or be covered in more detail in Section F - Demolition.

If hazardous waste exists on the site, its removal can be covered in more detail in Section G13 - Hazardous Waste Remediation.

Procedural requirements that do not affect the performance of the result or the description of the built elements should be specified in Section 00830 - Design and Construction Procedures. That could include: information available from the owner such as geotechnical reports; limitations on blasting, noise, dust, pollution; coordination with occupants; and protection of existing facilities.

General construction methods, including compliance with OSHA regulations, normally do not need to be specified in Volumes A-G, although it may be necessary to specify such requirements in the Product Specifications (Volume X), for the constructor's compliance.

Preservation of existing built elements, including utilities, would be described by the owner in Section 1 - Program Summary and by the design-builder in the relevant section(s) or in Section F - Demolition.

G12 EARTHWORK

This section includes all earthwork for changing levels, grading, excavating, filling, soil stabilization, and temporary and permanent erosion and sediment control structures made of soil or rock.

Excavation and fill include embankments, borrow, rock removal.

Soil stabilization can be accomplished by using geotextiles, cement, or lime.

Permanent erosion and sediment control structures include riprap, retaining walls, gabions, slope paving, and the like. Basic requirements for erosion control are in Section G - Sitework.

Procedural requirements that do not affect the performance of the result or the description of the built elements should be specified in Section 00830 - Design and Construction Procedures. That could include: information available from the owner such as geotechnical reports; limitations on blasting, noise, dust, pollution; coordination with occupants; and protection of existing facilities.

General construction methods, including compliance with OSHA regulations, normally do not need to be specified in Volumes A-G, although it may be necessary to specify such requirements in the Product Specifications (Volume X), for the constructor's compliance.

Preservation of existing built elements, including utilities, would be described by the owner in Section 1 - Program Summary and by the design-builder in the relevant section(s) or in Section F - Demolition.

G13 HAZARDOUS WASTE REMEDIATION

This section is an outline for specifying extensive hazardous waste cleanup or other types of remediation. It would be expected that such work would require careful analysis and specification based on the particular waste found on the site.

The relatively routine work of asbestos and lead-paint abatement and underground storage tank removal is covered under Section F - Demolition.

If hazardous waste remediation is to be accomplished by a separate contractor, do not include this section. Instead, enter a description of the other contract, for the design-builder's information, in Section 00830 - Design and Construction Procedures, under EXECUTION, Work by owner.

G19 OTHER SITE PREPARATION

This section is an outline for specifying any other aspects of site preparation that do not fit in other sections. No specific elements or activities have been identified for this section.

G2 SITE IMPROVEMENTS

This section includes all types of fixed improvements except services - mainly paving and surfacing, fixtures and equipment, and landscaping.

Under landscaping, irrigation and major indoor plantings are also included.

G21 PAVEMENTS AND SURFACING

This section covers roadways, parking lots, walkways, exterior stairs and ramps not connected to buildings, and exterior sports surfacing. Pavement types include both flexible and rigid materials, as well as unit pavers of all types. Granular surfaces such as gravel, shells, and crushed stone are also included.

Pavements and surfacing elements include ancillary items such as curbs and gutters, pavement marking, guardrails, parking bumpers, and guards and handrails used in conjunction with exterior stairs, ramps, and elevated walkways.

Grass playing surfaces are not included in this section but can be specified in Section G23 – Landscaping.

G22 SITE FIXTURES AND EQUIPMENT

This section includes all kinds of elements installed outdoors, primarily fixed or permanently mounted elements, but may include movable elements.

Major categories are as follows:

- Fences and other barriers
- Athletic fixtures and equipment (nets, goals, etc.)
- Miscellaneous minor structures (shelters, footbridges, fountain structure, etc.)
- Site furnishings (seating, tables, waste receptacles)
- Outdoor signs, other than building-mounted signs and traffic-oriented signs).

Related elements located in other sections are as follows:

- Athletic surfaces: G21 - Pavements and Surfacing
- Turf (lawns) for athletic play: G23 - Landscaping.
- Landscape irrigation: G23
- Roadway and parking lot signage: G21
- Fountain plumbing: D29 - Other Water and Drainage Elements

G23 LANDSCAPING

This section covers plants and turf throughout the site and indoors, plus elements that support or contribute to their maintenance, especially irrigation.

The project program should indicate any functional needs that plants address, such as lawns for children's play or shaded outdoor sitting areas.

Special landscape types, such as golf courses, may require addition of more specific requirements.

Major interior plantings, such as those in conservatories, garden rooms, atria, etc., are included in this section because they are more similar to outdoor landscaping than they are to interior furnishings. Minor quantities of portable potted plants would probably be better specified as furnishings, whether indoor or outdoor.

G29 OTHER SITE IMPROVEMENTS

This section is an outline for specifying any other site improvements elements that do not fit in other sections. No specific elements have been identified for this section.

G3 SITE SERVICES

This section covers requirements for site elements of services systems. Only those elements that occur only out-of-doors or in non-habitable site structures are included. It is necessary to include Section D - Services, at least, in order to provide a complete description of the services. Site HVAC distribution, lighting, telecommunications, and security controls are completely covered in Volume D.

It is assumed that this section will be required only for projects involving multiple buildings in a campus setting served by centrally produced services or involving major or extensive built elements performing services functions. For the typical hook-up of a single building to public utilities, see Section D - Services. Section D is the primary services section, regardless of whether site services are included or not. Other D sections may be necessary as well.

NOTE: Major site services elements are not included in the initial content set.

Some examples of major site services elements are as follows:

- Water and waste treatment facilities (other than the buildings that house them)
- Large water and fuel storage tanks
- Electrical power transmission lines and towers

G31 WATER SUPPLY

This section includes water tanks and reservoirs.

Section D - Services includes a definition of where water is to be obtained (public utility, etc.). Section D21 - Water Supply describes water supply for the occupants' use and building equipment use, including fire protection systems.

G32 SANITARY SEWER

This section includes sanitary sewer elements located in the site. If the building drain and sanitary sewer are connected to the public sewer utility, this section includes requirements for manholes and other elements.

See Sections D - Services, D2 - Water and Drainage, and D24 - Sanitary Waste for additional requirements.

Codes require that buildings connect to the public sewer system if it is available. If not available, private sewage disposal methods must be used. In that case, this section includes requirements for private sewage disposal systems (septic tank and disposal field), manholes, and packaged treatment plants.

G33 STORM SEWER

This section includes storm sewer elements located in the site. Elements included are storm sewers, manholes, culverts, lift stations, and sump pumps.

See Sections D, D2, and D25 for additional requirements.

G34 ELECTRICAL POWER

This section includes site electrical power supply and distribution elements located in the site.

Elements included are those that would be required for a campus or other group of buildings or for private power generation facilities.

NOTE: Private power generation facilities are not included in the initial content set.

G39 OTHER SITE SERVICES

This section is an outline for specifying other elements of site services that cannot be specified in any of the other sections in Volumes D or G.

Currently no other site services elements are identified for this section.

Related elements in other sections include the following:

- Site heating and cooling distribution are covered in Section D35 - Hydronic and Steam Distribution.
- Fuel distribution is covered in Section D31 - Energy Supply
- Site industrial waste services would be included in Section D82 – Process Waste
- Site lighting is covered in Sections D6 - Artificial Lighting, D62 - Exterior Area Lighting, and D63 - Athletic Lighting
- Site elements of telecommunications are covered in Sections D7- Telecommunications, D71 - Voice and Data, D72 - Sound Reinforcement, and D73 - Television.
- Site elements of security systems are covered in Section D92 - Surveillance and Security Controls.
- Cathodic protection of underground piping and other elements is covered in Section D94 - Cathodic Protection.

G9 OTHER SITE CONSTRUCTION

This section includes other types of site construction that do not fit in any of the other sections in Volume G. The only element currently included is service tunnels that are not part of substructure or a utility structure applicable to a single utility

Appendix C

Short Form Section Contents

Content in the Short Form tab is organized according to the 16 Divisions of the 1995 edition of *MasterFormat*. The Short Form tab may be used both for design-build projects and design-bid-build projects.

There are only 16 sections on this tab, corresponding to the 16 divisions of *MasterFormat 95*. Each section, in turn, is divided into major articles that correspond approximately to the individual sections offered in each division on the SpecLink tab. The abbreviated text offered under each article heading consists primarily of product descriptions, with very few general requirements or installation instructions.

X01 GENERAL REQUIREMENTS

This section includes brief specifications on *MasterFormat* Division 1, General Requirements, topics, organized according to *MasterFormat* Level 2 numbers and titles.

This section covers specification requirements that apply to all construction contracts, disciplines, or trades. It is primarily intended for "Instructions for Construction" documents, such as for a design-builder's construction subcontracts, but can also be included in earlier documents, particularly if any other Product Specifications (Volume X) sections are included at that time.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any specifications are included in the initial content set, for ease of identifying locations for project-specific requirements or the design-builder's procedures relating to subcontracts.

If "general" requirements that apply only to the owner/design-builder contract need to be included, they may be specified in Section 00830 - Design and Construction Procedures. Examples would be terms and conditions that apply to the RFP or the Proposal documents, the design-builder's quality control plan, and a detailed commissioning plan.

X02 SITE CONSTRUCTION

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 2, Site Construction.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X03 CONCRETE

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 3, Concrete.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X04 MASONRY

This section includes brief specifications on products related to those described in Volumes A through G that would be specified in *MasterFormat* Division 4, Masonry.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X05 METALS

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 5, Metals.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X06 WOOD AND PLASTICS

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 6, Wood and Plastics.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X07 THERMAL AND MOISTURE PROTECTION

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 7, Thermal and Moisture Protection.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X08 DOORS AND WINDOWS

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 8, Doors and Windows.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X09 FINISHES

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 9, Finishes.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X10 SPECIALTIES

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 10, Specialties.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X11 EQUIPMENT

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 11, Equipment.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X12 FURNISHINGS

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 12, Furnishings.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X13 SPECIAL CONSTRUCTION

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 13, Special Construction.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X14 CONVEYING SYSTEMS

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 14, Conveying Systems.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X15 MECHANICAL

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 15, Mechanical.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

X16 ELECTRICAL

This section includes brief specifications on products related to those described in Volumes A through G, that would be specified in *MasterFormat* Division 16, Electrical.

All the *MasterFormat* Level 2 numbers and titles are included, regardless of whether any product specifications are included in the initial content set, for ease of identifying locations for product specifications added by the user.

Appendix D

SpecLink Tab Section Format

Listed below are the Article titles provided in the template, which should be used when appropriate. The PARTs are always used. The Articles marked with an asterisk * are SpecLink added titles, not part of the 3-Part Format.

Note: The complete listing of the sections in the SpecLink tab changes each quarter. To see the current Catalog Listing, see our subscriber page at http://www.bsdssoftlink.com/speclink/sl_subscribers.htm.

- PART 1 GENERAL**
 SECTION INCLUDES
 RELATED REQUIREMENTS
 PRICE AND PAYMENT PROCEDURES
 ABBREVIATIONS AND ACRONYMS
 DEFINITIONS
 REFERENCE STANDARDS
 ADMINISTRATIVE REQUIREMENTS
 SUBMITTALS
 QUALITY ASSURANCE
 MOCK-UP
 DELIVERY, STORAGE, AND HANDLING
 FIELD CONDITIONS
 WARRANTY
- PART 2 PRODUCTS**
 OWNER-FURNISHED PRODUCTS
 MANUFACTURERS
 *BASE BID MANUFACTURER
 *APPLICATIONS
 [SYSTEM] [ASSEMBLY]
 [MANUFACTURED UNITS] [EQUIPMENT]
 MATERIALS
 ACCESSORIES
 SOURCE QUALITY CONTROL
- PART 3 EXECUTION**
 INSTALLERS
 EXAMINATION
 PREPARATION
 [INSTALLATION] [APPLICATION]
 TOLERANCES
 REPAIR
 RESTORATION
 RE-INSTALLATION
 FIELD QUALITY CONTROL
 SYSTEM STARTUP
 ADJUSTING
 CLEANING
 *COMMISSIONING
 CLOSEOUT ACTIVITIES

PROTECTION
MAINTENANCE
ATTACHMENTS

END OF SECTION

Appendix E

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