* The following checklist is to be used for the development of the construction documents.
* The checklist is intended to assist the project architect/engineer develop a complete set of construction documents. The checklist should not be considered to be all inconclusive. Additional information as may be necessary for a project should be incorporated.

**General Information**

A key plan, when necessary to identify areas of the floor plan when the plan is separated.

Drawing sheets should be of a size appropriate to efficiently accommodate the necessary drawing information and minimize white space.

Main floor plans for all disciplines are to be at the same scale and oriented in the same direction. North should be oriented to the top of the page unless the size of the plan is too large. North to the right sheet edge is the alternative.

Title blocks should follow the example of the Standard Title Block Form 112.

Provide legends for abbreviations, materials and symbols.

Titles on the drawings and on the specifications shall **exactly** match the title on the Project Number/Data Request.

Each technical drawing sheet shall be sealed, signed, and dated by the responsible design professional.

**Cover Sheet**

Project title and DCC project number ("A" number).

Owner/state agency name.

Building name and number.

Project location.

DCC’s street address, telephone number and fax number.

Project architect/engineer’s name, street address, telephone number, and fax number.

Primary consultants' names and disciplines.

Drawing sheet index.

Vicinity and/or campus maps.

A title block that matches the title block on the other drawings should appear on the cover sheet.

**Site Plans**

Site plan(s) shall be drawn to a scale not smaller than 1" = 50'-0” and provide a graphic scale.

Survey information.

Clearly differentiate new features from existing.

Sidewalks, including dimensions.

Driveways including dimensions, curbs, directional graphics and signage.

Parking areas, including dimensions, curbs, striping, area lighting, bollards, parking bumpers and signage.

Curb cuts, ramps and stairs including dimensions.

Building floor elevations shall be noted as both the actual elevation and the referenced elevation.

Contours of existing and finish grades shall be shown at 1'-0" intervals, include spot elevations where needed.

All horizontal control dimensions.

Drainage.

Landscaping.

Final grade elevations at all corners of the building and at such points as building entrances, landings, walks and drives.

Structures to be demolished.

Site utility information may be combined with other site plan information if it can be clearly represented without distortion of other site information. Otherwise provide site utility information separately.

Existing utilities to be removed or abandoned.

Construction limits and staging area.

Contractor access and parking.

When applicable, indicate protected temporary egress through the site construction area.

**Architectural**

**Floor Plans**

Where entire plan of the building or complex cannot be shown on one sheet at 1/8" = 1'-0", a separate drawing shall be prepared to show the overall dimensions, arrangements and relationships of the various components of the project. A key plan shall appear with each of the working drawing plans to designate the section of the project to which each component relates.

Complete dimensions to allow for constructability.

Orientation, room titles and room numbers for all areas on each floor of the building.

Key symbols for sections, door and window designations, elevations and details shall include section designations, sheet reference.

Where floor elevations differ, the elevation of each shall be noted.

Floor material transitions.

Plan dimensions shall be to one face of masonry, one face of wood framing and to center line of metal framing members, rather than to finish materials.

Elements and components which must be coordinated among architectural, structural, mechanical and electrical plans shall be shown and referenced where they affect the work of the other trades.

Enlarged plans shall be drawn minimally at 1/4" =1'-0" for congested areas, stairs, elevators, toilet rooms and areas in which location of equipment is critical.

Indicate plumbing fixtures and other fixed equipment.

Provide structural grid reference when applicable.

**Reflected Ceiling Plans**

Reflected ceiling plans shall be drawn at the same scale as the architectural floor plans.

Identify all typical and special ceiling materials and conditions.

Identify all ceiling materials, wall faces and profiles, exposed beams and other construction.

Locate clouds, light fixtures, diffusers, grilles, and access panels. Coordinate location of speakers, sprinkler heads, smoke detectors, ceiling fans, and all other items with the ceilings.

Locate skylights, drapery pockets and tracks, trim around columns, borders, trim cornices and control joints; coves, ceiling heights, bulkheads, soffits, beams and structural supports.

Give dimensions when specific ceiling layout is required.

**Roof Plans**

Roof plans drawn at a scale to show roofing information but shall not be smaller than 1/16" = 1’ – 0”.

Coordinate roof plan information among all disciplines.

Identify all materials such as saddles, crickets, valleys, ridges and any change in elevations or slope.

Locate roof drains, overflow drains and scuppers.

Locate gutters and downspouts.

Note penetrations through the roof such as skylights, exhaust fans, plumbing vents and roof hatches.

Identify roof mounted mechanical equipment, communications equipment and location of ladders.

Note changes of roof elevations.

Note slopes or other significant conditions.

Built-up roofs shall have a slope of not less than 1/8” per foot.

Indicate locations of insulation vents if required.

Identify section and detail location(s).

For “flat” roofs, show the direction of slope of tapered insulation.

**Building Elevations**

Draw building elevations at the same scale as the plans, but not less than 1/16” = 1’-0”.

Indicate elevation of below grade, areaways, tunnels, etc.

Indicate elevation of floors, roof and structural bearing other significant points.

Identify all exterior wall materials.

Locate doors, windows, control joints and expansion joints.

Identify section and detail references.

Show light fixtures, louvers and other mechanical and electrical devices that appear on the exterior.

Show scuppers, gutters and downspouts.

**Interior Elevations**

Enlarged elevations of restrooms to shall indicate mounting heights of toilet fixtures and accessories, including items required for accessibility.

Interior elevations of cabinetry, counters, shelving and casework, including items required for accessibility.

Elevations of other areas that have special features or require additional detail

Indicate material, finishes and other special features.

**Building Sections**

Building sections drawn at the same scale as the building elevations.

Elevations of footing/grade beam bearing, pier caps, floors, roofs and other significant structural points.

Show sections through stairs and elevators.

Show any special conditions.

Show interior room elevations and room identification.

Show stairs, corridors, chases, and plenum areas.

Show floor, ceiling and roof planes.

Where a fire rated design is required, reference a recognized testing agency, trade association or applicable building code for floor/ceiling and roof/ceiling assemblies.

**Wall Sections**

Wall sections drawn at a scale large enough to show building components in detail.

Show typical and special wall construction.

Elevations of footing/grade beam bearing, floors and other significant structural points.

Detail wall construction, construction details at floor and roof systems.

Details at doors, windows and wall penetrations.

Elevations of footing/grade beam bearing, pier caps, floors, roof and other significant structural points.

Reference enlarged details.

Indicate fire-resistive rating when applicable.

**Details**

Detail accessibility information.

Details shall be drawn at scales large enough to show specific conditions, components and organization of construction.

Typical and special window heads, jambs, sills and mullions.

Typical and special door heads, jambs, sills and transoms.

All exterior door details shall include sill details showing the threshold in relation to the floor and foundation wall.

Spandrel detail, parapets, cornices and overhangs.

Special construction conditions and architectural features.

Cabinets, shelves, racks, wardrobes, chalkboards and special equipment.

Typical and special trim.

Show stair risers, treads, landings, newels, handrails, guardrails and dimensions of all components.

Show details of ramps including landings, handrails, guardrails, dimension all components and indicate the slope of the ramps required for accessibility.

At elevators detail shaft construction and hoistway openings.

Show all roof details at typical and special conditions.

Indicate fire stopping details and fire resistive details. Where a fire rated design is required, reference a recognized testing agency, trade association or applicable building code.

**Architectural Schedules**

The door schedule shall indicate door size, type, frame type, hardware set, detail references, fire ratings and notes.

The window schedule shall include glass and frame type, detail references, fire ratings and notes.

The finish schedule shall minimally include room names and numbers, floor, ceiling, wall and base materials, ceiling heights and notes.

The partition type schedule shall be presented either graphically or in written format. Where a fire rated design is required, reference a recognized testing agency, trade association or applicable building code.

**STRUCTURAL**

Drawings shall contain all dimensions and details necessary to layout and construct the building.

Identify the building code used for design.

Details shall identify all typical and special conditions that occur in all components of the structure.

The foundation plans shall be drawn at the same scale as the architectural floor plans.

Provide large-scale details, sections, schedules and notations to indicate the size, shape, materials, reinforcing and elevations of footings, piers, grade beams and walls and footing drain system.

Foundation plans may be combined with slab on grade and basement plans if clarity is maintained.

Framing plans shall be drawn at the same scale as the architectural plans.

Schedules shall identify material, size, shape of member and identifying mark.

Note the design live loads used in the preparation of the structural members.

Show column grid lines and verify that the locations match the architectural floor plans.

Identify loading including, floor / roof live loads, snow loads and dead loads.

Identify species and grade of wood in wood construction.

Indicate basic wind speed (3-second gust), miles per hour and wind exposure per applicable code.

Indicate seismic design category and site class and the following:

Seismic importance factor and occupancy category.

Mapped spectral response accelerations.

Site Class

Spectoral response coefficients

Seismic design category

Basic seismic-force resisting systems

Design base shear

Seismic response coefficients

Response modification factors

Analysis procedure used.

**ENGINEERING**

MEP plans should be separate HVAC, plumbing and electrical plans with the exception of small projects at the discretion of the Owner. All MEP plans shall be drawn to the same scale and orientation as the architectural plans.

**Utilities Site Plan**

A utilities site plan shall be provided unless this data is included on the architectural site plan. Indicate surface features such as buildings, drives, parking, sidewalks, trees, etc.

Symbols Legend

Graphic scale

Permanent and temporary utilities and include elevations for each

Identify utility crossing points and separation or sleeve requirements

Overhead electrical and height of conductors

Flow lines and invert information on manholes

All fire hydrant locations

**Heating, Ventilating and Air Conditioning Plans**

Symbols Legend

Graphic Scale

Partitions and room layouts, fire and smoke rated partitions locations

Two line ductwork layout including size, pressure class (where pressures exceed typical duct pressures) Single line is acceptable for final run outs to the diffusers or grilles

Identify return plenums and locations where exposed combustible materials are prohibited

Locations of fire and smoke dampers. Include the F/S damper rating.

Duct Smoke detector locations

All necessary details, sections, schedules and notes to show the extent of the work

Graphically indicate all code required maintenance and clearance areas around equipment

Balancing devices such as dampers, balancing valves, thermometers, pressure gauges, instrument-flow fittings and instrument-access panels which are required for balancing

HVAC control drawings and schematics, including sequence of operation

**Plumbing Plans**

Symbols Legend

Graphic Scale

Foundation drains locations & size

Sewer line locations & size

Water supply piping locations and size

Identification of non-potable water systems

Plumbing fixtures and equipment

Vent piping & sizing and Vent to Roof locations

Clean out locations

Floor Drains and locations of required indirect drains

Sumps and sump discharge piping

Sewage disposal system, waste grinders, sewage pumps, etc. (if applicable)

Grease traps, oil/water separators including capacity

All necessary details, isometric diagrams, schedules and notes to describe fully and clearly all equipment, pipe and fitting types, sizes and materials.

All pertinent floor elevations and drain piping flow elevations necessary to determine if proper drain pipe slope is available.

Plumbing riser diagrams

Roof drainage and overflow system including sizes and discharge locations

Gas piping including sizes and pressure

Gas meter pressure and any pressure reducing valves required.

Unless shown on a utilities site plan, include a plumbing site plan to show the location, type, size and extent of exterior lines, connections and equipment including separation from other utilities and any sleeve requirements.

**Electrical Plans**

Symbols Legend.

Graphic Scale

Temporary power locations if temporary power is not provided by the contractor.

Locations and sizes of all main-feeder and branch circuit conduits.

All conductors and sizing.

Circuits noted by numbers.

Special outlets/receptacles and their voltage amperage ratings.

Locations of all GFCI or AFCI devices or circuits.

Light fixtures including emergency and exit lighting

Light fixture schedules

Locations and details of switchboards, panelboards and other electrical equipment

Locations and sizes of disconnects motor connections.

Show code required exits for electrical rooms with equipment over 1200 Amps

Locations, of, speakers, clocks, telephones, security and other special systems.

The electrical riser diagrams shall extend to and include all panel boards.

Graphically indicate required code clearance areas of electrical equipment.

The total building connected load and calculated load demand in kilowatts for new services

**Fire Suppression Plans**

See NFPA A22.1 for description of Preliminary Plans

Symbols Legend.

Graphic scale.

Site plan shall show the location, type size and extent of exterior lines, connections to the water supply including valve position indicators/ valve pits etc., includelocations of fire hydrants existing and new. (site plan information can be included in the civil drawings)

Identify the NFPA 13 edition to which the system is designed and system type and special requirements (i.e.: wet, dry, antifreeze, etc.).

Identify occupancy class of the building and any hazardous area classifications.

Identify all walls/partitions.

Water supply information including test dates and test source to verify adequacy of the water supply. (Full calculations are provided with the shop drawings.)

Identify concealed spaces, closets, attics etc. that require sprinklers.

Identify enclosures in which no sprinklers are required.

Identify known obstructions that affect sprinkler layout. ie: soffits, beams pockets, ducts, etc.

Piping type, fitting type and joining methods.

Fire service entrance riser and main drain locations. Coordinate maintenance and testing access.

Sprinkler test stations including provisions for test water removal.

Sprinkler piping feed mains and approximate size and location for coordination with building elements and other trades (including drainage provisions.)

Sprinkler piping cross mains when necessary for coordination with building elements.

Sprinkler head locations when necessary for coordination with specific building elements.

Identify any high temperature head locations.

Standpipe locations and hose connections.

Interconnections with other building systems (fire alarm etc.).

Where a new system is connected to an existing system, provide sufficient detail to indicate that the new system is compatible and water supply is adequate for both systems.

Final shop drawings shall include all information required by NFPA 13 for Working Plans.

**Fire Alarm**

Symbols Legend.

Graphic Scale.

Identify NFPA 72 edition to which system is designed.

Floor plans shall be drawn to same scale as the architectural plans with room numbers and names indicating the use of all rooms.

Locations of alarm-initiating devices including smoke, heat or fire sensing devices

Locations of notification appliances including any ADA required devices

Location of the Fire Alarm Control Panel and Annunciation Panels (if annunciation panels are required)

System monitoring method & location of remote supervising station (i.e. dial up, agency security office, local Fire Dept.).

Type of power connection for the system. (including secondary power source ie: battery, generator, etc.)

Conductor types/wiring methods. (i.e. shielded cable, plenum cable, cable tray, cable in conduit)

Details of ceiling height and construction where they are non standard (i.e.: sloped ceilings, beam pockets, soffits, ceilings over 15ft, etc. Verify this information with the architectural plans.

Interlocks with other systems. (i.e.: fire sprinkler, HVAC, security, etc.)

**Final Specification**

State that specific brands or catalog numbers listed in the specifications are intended only to establish performance, quality, type and physical characteristics.

Whenever possible, a minimum of three manufacturers shall be listed as approved equal.

Required performance criteria for all materials and assemblies should be included along with installation procedures (unless reference is made to follow manufacturers' procedures), coordination procedures and cleanup methods.

Balancing of all air-handling, hydronic and exhaust systems, when applicable, shall be prescribed in the mechanical specification in detail, including contractor requirements.

**Procurement of testing services will be coordinated with the agency. Note when contractor should provide these services as part of their contract.**

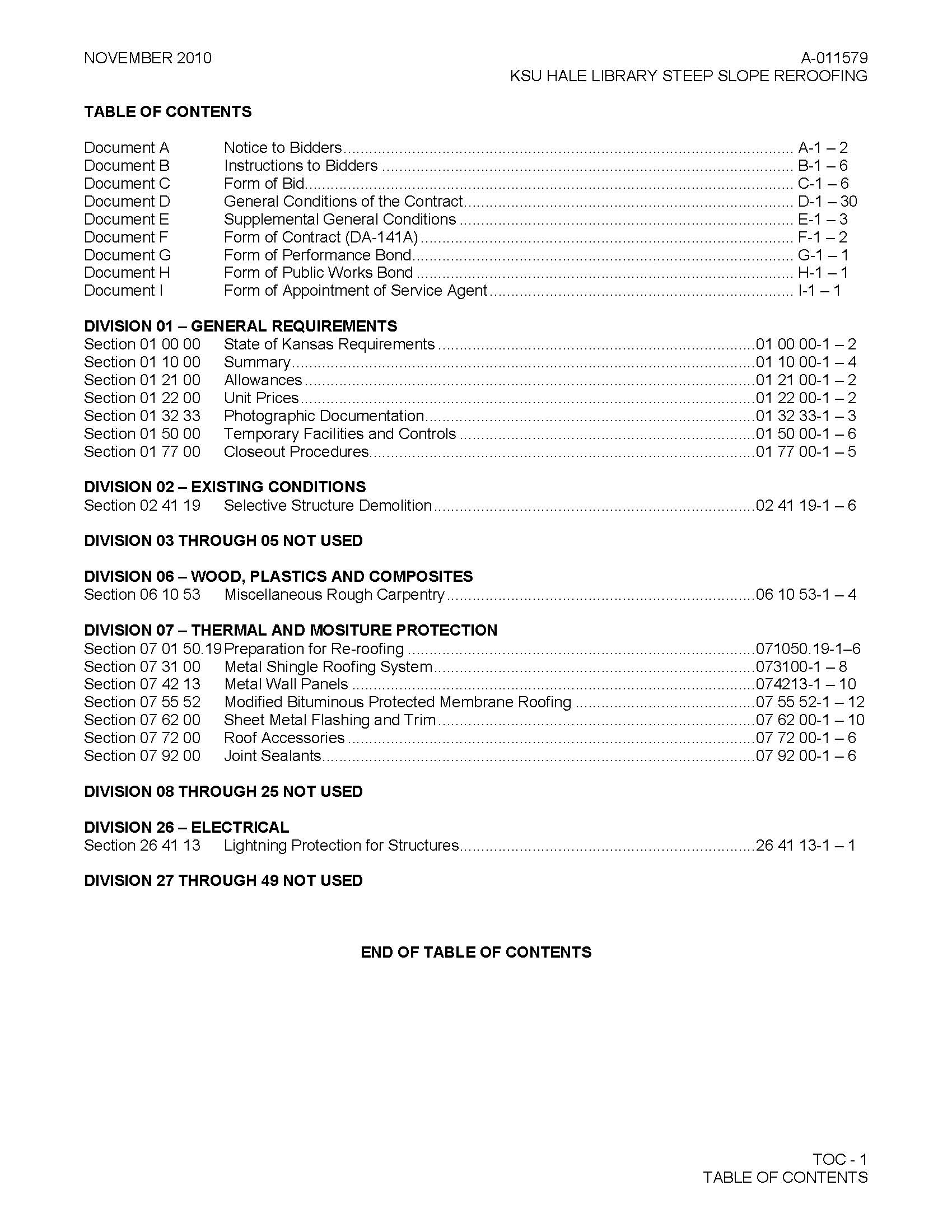
**Special inspections, as required by the applicable building code, shall be included in applicable sections.**

All devices such as balancing dampers, splitter dampers, volume extractors, balancing valves, thermometers, pressure gauges, instrument-flow fittings and instant access panels required for balancing shall be specified.

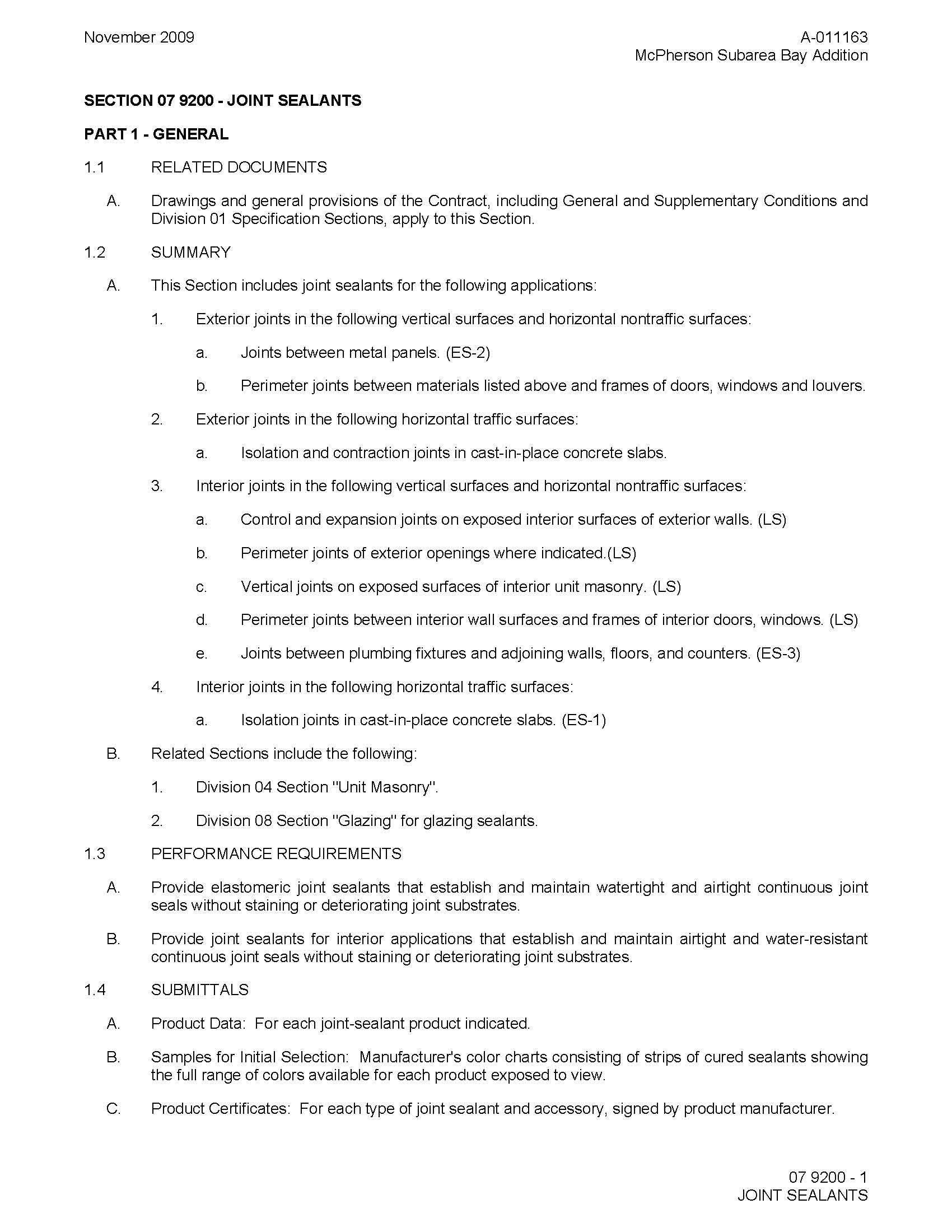
The final specifications shall require a minimum of four complete sets of operations and maintenance manuals covering each item of equipment. These manuals shall be bound separately for the mechanical and electrical and any portion, which is under separate contract. The manuals shall include interconnection diagrams for mechanical and electrical equipment, complete schematic wiring diagrams of all electrical and electronic equipment or subsystems or components of mechanical or similar equipment which are adequate for troubleshooting or repair purposes.

The final specifications shall require the contractor to provide a minimum of one complete run-through with operating agency of all new and modified equipment and systems. This allows the operating agency personnel to receive "hands-on" experience before the contractor leaves the project.

Specification Header shall include the project title, DCC project number, the month & year to match the date on the drawings. Provide a blank line below the header information to separate the header from the technical specification. See sample below.



Specification footer shall include the section number and title. Provide a blank line above the footer information to separate the footer from the technical specification. See sample below.



**END OF CONSTRUCTION DOCUMENT CHECKLIST**