

2.5.4 CONTRACT DOCUMENT PHASE CHECKLIST (100% Complete)

Outline

1. General
2. Architectural
3. Civil
4. Structural
5. Mechanical
6. Electrical
7. Telecommunications
8. Code/Permits
9. Equipment
10. Cost

2.5.4.1 General

1. Include all items from the schematic design and design development checklists in addition to the items as follows:
2. Specifications shall be fully developed and complete. Sections shall conform to five digits, three parts, CSI format and all cross-references sufficiently coordinated in the specification. Refer to "Unit Prices" Section 3.3 and "Specification Requirements" Section 3.1 this Manual.
3. The final submittal shall include accepted responses to all previous design and reviews comments.
4. All sources of all information shall be indicated on the drawings.
5. Subjective evaluation terms shall not be used.
6. "Checklist for Permits, Certificates and Approvals" (DPW form 330L) shall be updated, complete, and submitted.
7. Follow through with any remaining issues with the above listed permits as required.
8. The environmental document shall be reviewed to ensure that all agreed mitigation measures have been incorporated in the drawings and specifications.
9. Include an interdisciplinary coordination (use of "Redicheck" <http://www.redicheck-review.com/> or equivalent) to ensure that the documents shall be consistent and in conformance of each part with all of the parts prior to submittal of the completed documents. Details of this requirement are as follows:
 - The design professional is required to perform an internal review of their documents prior to each submission. This review shall be performed by person(s) not directly working on the project. Their review comments shall be available to DPW along with the submission
 - The architect is required to submit the written results of an internal review of all of the documents along with 100% CD Phase submission for the purposes of assuring document quality control and coordination. The review shall be performed by person(s) not directly working on the project. An outside independent review is preferred.

Note:

The review or approval of, or any request for corrections to, the Design Documents by DPW or any other Project Team member shall not be construed as relieving Architect-Engineer of its responsibility for the suitability, completeness and interdisciplinary coordination of the Design Documents prepared by Architect-Engineer or its Sub-consultants. The Architect-Engineer at no cost to the Owner shall resolve any errors, omissions, or ambiguities in the Design Documents.

2.5.4.2 Architectural

1. All items listed under design development checklist.
2. Refer to "Drawing Information- General" Section 3.2 this Manual.
3. Drawings: Floor plans, roof plans, elevations, sections shall not be less than 1/8":1'-0" scale, large details as needed to understand intent of the design; fully dimensioned; all material identified. Include legends and abbreviations.
4. Key plan on each drawing for large projects.
5. Detailed expansion and control joints.
6. Elevations of all exterior surfaces including finish grades.
7. Provide as many sections as needed to show all wall conditions; typical construction; elevators; stairs; wall treatments; flashing; intersections of different materials; insulation(s); wall reinforcement; footing and foundation details.
8. Provide large-scale details sections to illustrate interrelationship of elements not shown in sections.
9. Demolition (if any) shall comply with requirements in "Demolition" Section 2.4.9 in this Manual.
10. Roofing data and details. Review of Roofing required by FM Global (DPW Insurance Carrier) Refer to Section 2.4.7 for Insurance Carrier Address.
11. Certification the design is in substantial compliance with the Connecticut Basic Building Code. The A/E is to sign and issue Part A of the "Certificate of Compliance". Refer to "Code Review" Section 2.4.1 of this Manual.
12. Final coordination of the telecommunication system with DPW-Telecommunications Unit, agency and OIT.
13. Anchorage details and spacing requirements for structures and nonstructural components due to seismic loads.

2.5.4.3 Civil

1. Contract limit lines, property line, north arrow.
2. New and existing grades.
3. Bench mark, base lines.
4. Name of surveyor and date of survey.
5. Survey: statement of accuracy.
6. Linework shall clearly differentiate between existing and proposed work.
7. Landscape, details, site furnishings, topsoil, fills.
8. Roads and parking lots including drainage, radius, details, walks, stairs etc.
9. Site lighting.
10. Refer to "Utility Hookups" Section 2.3.3 in this Manual.
11. Include subsurface investigation information on the drawings.
12. Septic system.
13. Details shall comply with "Connecticut Department of Transportation, Bureau of Highways, Standard Details, which shall be modified for Department of Public Works lump sum bid requirements by elimination of conditional requirements.
14. The designer is to determine project conditions and shall eliminate all conditional, subjective or interpretive requirements within the project documents by either deletion or replacement with specific, definitive and/or measurable requirements.
15. Consultant must coordinate all new or upgraded Utilities, including necessary easements, with the appropriate Utility company(s).
16. Ensure topographical and boundary CAD drawings comply with the standards and criteria in Section 2.3.6 of this manual.

2.5.4.4 Structural

1. Foundation plan (plans, sections, footings, special ties, piles, etc.) including slab bases, footing drains and under-drains, retaining walls and site work walls and stairs foundations.
2. Floor and roof plans and details.
3. Framing details.
4. Columns and reinforcement schedules.
5. Design Loads for walls, floors, roof, wind, seismic, etc.
6. Fireproofing.
7. Elevations of footings (based on site survey datum), walls, top of steel, finished floor.
8. Caissons. The bottom elevation of each caisson is to be indicated on the drawings. Piles. The estimated length for each group/cluster.
9. Anchor details and spacing requirements for structures and nonstructural components due to seismic loads.

2.5.4.5 Mechanical

1. Plans, details and flow diagrams. All pipe and ductwork sized.
2. Indicate air inlet/outlet devices, neck size, velocity (CFM) and type.
3. Show details and locations for all seismic sway bracing, expansion compensation, anchors and guides.
4. Completed schedules, legends and general notes.
5. Large scale plans of boiler, equipment, and main toilet rooms, food service areas, laboratories, and similar type areas.
6. Provide riser diagrams for plumbing, fire protection, multistory duct and pipe.
7. Final specifications with all equipment sections and temperature control sequence of operation.
8. Include in the contract a provision for computer software and hardware in all equipment, components and systems to be compliant with year 2000 (Y2K), and that the complete systems be tested prior to acceptance by the owner.

2.5.4.6 Electrical

1. Complete site distribution drawings, including electric, telephone/Data, CATV, CCTV, fire alarm, security and lighting systems. Detail underground duct-banks, manholes, luminaire posts. Verify on-site conditions. Coordinate design with other utilities.
2. Complete one-line power diagram, or power riser diagram. Indicate all major power equipment, transformers, panelboards, motor control centers, etc., with conduit and conductor sizes. Identify distribution voltages. Complete primary and secondary system details.
3. Complete all lighting and power floor plans. Indicate all fixture designations, circuit numbers, receptacles, voice/data outlets, motors and temperature control equipment.
4. Indicate electrical switchgear, panelboards, transformers and major equipment on the floor plans. Verify clearances are as required by all codes.
5. Detail emergency and life safety systems, and/or other special or unique systems with details of components and methods of installation.
6. Indicate all system outlets on floor plans and on riser diagrams for fire alarm, CATV, CCTV, paging, security, computer, voice and data systems, complete with conduit and conductor sizes where applicable.
7. Complete all schedules and riser diagrams.
8. Complete final specifications. Do not include "size as required", "to be determined at installation" etc., either on drawings or in specifications.

9. Anchorage details and spacing requirements for structures and non-structural components due to seismic loads.
10. Telecommunications requirements. Refer to Contract Document - "Telecommunications" Section 2.5.4 in this Manual.
11. Include in the contract a provision for computer software and hardware in all equipment, components and systems to be compliant with year 2000 (Y2K), and that the complete systems be tested prior to acceptance by the owner.
12. Consultant must coordinate all new or upgraded Electrical Utilities, including necessary easements, with the appropriate Utility company.

2.5.4.7 Telecommunications

1. Provide correspondence from telephone utility company outlining method of service and charges if any. See "Utility Information".
2. Final voice and data raceway for cable distribution systems, including outlet locations and conduit sizes.
3. Final design of telecommunications rooms, and computer room(s) per wiring standard. Agency and DPW-Telecommunications Unit requirements.
4. Complete conduit riser diagram for voice/data systems, including all required sleeves.

2.5.4.8 Codes/Permits

Codes

1. Refer to schematic design "Code Requirements" Section 2.5.2.8 update information, if required.
2. Update the "Building Information Form" (DPW form # 311F) on drawings if required.
3. Fire-resistant ratings of structure elements and locations of penetrations for electrical, mechanical, plumbing and etc. to be shown.
4. Fire protection systems plans and specifications must conform to NFPA 13 and 14; and current State Building and Fire Safety Codes. Refer also to "Fire Protection and Water Supply" Section 2.4.7 in this Manual.
5. Fire alarm tests for all non-threshold buildings shall conform to "Fire Alarm/Acceptance Testing Procedures" as detailed in the General Requirements Section 01400 "Quality Control".
6. A statement of Special Inspections (title must be "Statement of Special Inspections) to be filled out and submitted by the Consultant to DPW.

Permits

1. Follow through with any remaining issues with the above listed permits as required.
2. If there are any outstanding permit issues, notify the designated DPW PM and DPW Environmental Planning in writing.
3. All necessary approvals for construction related permits must be obtained prior to bidding.

2.5.4.9 Equipment

1. Equipment layouts etc. Same as basic stage but with more detail.
2. Include in the contract a provision for computer software and hardware in all equipment, components and systems to be compliant with year 2000 (Y2K), and that the complete systems be tested prior to acceptance by the owner.
3. The equipment, components and systems includes but is not limited to, programmable thermostats, HVAC controllers, auxiliary elevators controllers, utility monitoring and control systems, fire detection and suppression systems, alarms, security systems and any other facilities control systems utilizing microchip, minicomputer, or programmable logic controllers.

2.5.4.10 Cost Estimate

1. Prepare detailed cost estimate. Indicate quantities, unit prices, labor and material costs.
2. Estimates shall be based on accurate quantity take-off and current unit prices.
3. If a Construction Administrator (hired by DPW) is involved with the project the costs shall be compared and reconciled.