

**103.101– QUALITY ASSURANCE GUIDELINE****PART 1 - INTRODUCTION****1.01 OVERVIEW**

- A. This document contains procedures, requirements and information related to BJC's Quality Assurance programs.
- B. Quality Assurance. Quality Assurance efforts focuses on documenting BJC's expectations and verifying that every project meets those expectations. The components of BJC's Quality Assurance program include the Manual of Practice, and project document reviews, and jobsite observations.
- C. History. Owner reviews began in 2009 and the first Manual of Practice was published in 2012. Since then, the review process has evolved and has become an important component of the project development for BJC.
- D. This guideline applies to all projects, regardless of the project delivery method (CM at Risk, Design-Bid-Build, Design-Build, Integrated Project Delivery, etc.).

**1.02 DELIVERABLES**

- A. All identified deliverables for each phase listed in the project's Exhibit 2 document shall be delivered to BJC at the completion of the phase, regardless of whether a formal Owner review is planned.
- B. Deliverables may include but are not limited to the following: renderings, drawing sets, specifications, reports, samples.
- C. Deliverables in Exhibit 2 are explained in Planning Guideline and Architectural Design Guideline.

**PART 2 - GUIDELINE****2.01 MANUAL OF PRACTICE (QA)**

- A. BJC maintains this Manual of Practice (MoP) as a fundamental component of the Quality Assurance program. The MoP contains policies, guidelines, and standards, and other documents to assist the design and construction teams with the delivery of a built environment in accordance with BJC's expectations.
- B. Master Agreements for planning, design and construction services require compliance with the Manual of Practice.

**2.02 PROJECT DOCUMENT REVIEW (QA)**

- A. As part of the Quality Assurance program, Owner Reviews include both the Design Phase (Schematic Design and Design Development Phases) and Construction Document Phase Reviews.

1. DESIGN PHASE REVIEW (SD/DD)

- a. Overview. “Design is done at the end of Design Development.” In order to achieve this, we must have acceptance from all project stakeholders of the development of the project by the end of design. Based on a variety of factors, it is believed that a collaborative meeting format offers the best use of time and is the most conducive setting for this type of review as it brings all project stakeholders together in one location. (For most projects, a Design Project Manager is assigned to a project and serves as the primary point of contact during the Design Development Phase. In instances where a Design Project Manager is not assigned, the Planning, Infrastructure, and/or Construction Project Manager may serve as the primary point of contact.)
- b. Review Process
- 1) **Submit Deliverables.** Architect and/or Engineer shall complete and submit deliverables as required per the Agreement and Exhibit 2 (in instances where both an Architect and Engineer are working together on the same project, the Architect shall be responsible for coordination of all the deliverables).
    - a) Upload electronic deliverables to BJC Box. Architect and/or Engineer shall upload electronic files to BJC Box and notify the assigned BJC Project Manager.
    - b) Create BlueBeam Studio Session. Architect and/or Engineer shall host and upload electronic deliverables to BlueBeam and invite identified project stakeholders.
    - c) Deliver non-electronic deliverables. Architect and/or Engineer shall deliver non-electronic deliverables to the assigned BJC Project Manager.
  - 2) **Submit Project Request.** BJC Project Manager shall complete the “Drawing Review Request” form located at S:\10 FORMS\01 Design\14. Project Drawing Review and click “Submit” (the form is sent to the Outlook account titled PD&C Plan Room).
  - 3) **Schedule Review Meeting.** BJC Business Care Team receives the request and schedules a review meeting per the Design Review Block Time. Meetings will be held on Wednesday afternoon between 1pm and 3pm or between 3pm and 5pm, only.
  - 4) **Meeting.** Architect and/or Engineer will lead the meetings, describe the project and have available all of the required deliverables.
    - a) Meetings shall occur on be made available on WebEx, shall be recorded sessions and be made available for those identified project stakeholders not able to attend in person.
    - b) Design Professional shall document all applicable comments.

- 5) **Meeting Minutes.** Architect and/or Engineer shall prepare and distribute meeting minutes. These minutes shall include all stakeholder comments and the proposed Architectural and/or Engineering response.
  - a) Project stakeholders shall review the minutes. Approval within 5 business days by project stakeholders is required (a non-response is considered as approval). Any outstanding unresolved concerns shall be noted and addressed as necessary.

## 2. CONSTRUCTION DOCUMENT PHASE

- a. Overview. These deliverables are large, technical documents that contain very detailed information related to construction activities. As such, there are only a few project stakeholders that have the training to review these types of deliverables. A select few subject matter experts are relied upon for review of the technical content. The review of this material is tedious and requires a significant amount of time which is best performed on an individual basis. However, utilizing programs that offer collaborative responses is important.
- b. Review Process
  - 1) **Notify Project Manager.** Architect and/or Engineer shall notify BJC Project Manager of upcoming CD Review.
  - 2) **Submit Project Request.** BJC Project Manager shall complete the “Drawing Review Request” form located at S:\10 FORMS\01 Design\14. Project Drawing Review and click “Submit” (the form is sent to the Outlook account titled PD&C Plan Room).
  - 3) **Submit Deliverables.** Architect and/or Engineer shall complete and submit deliverables as required per the Agreement and Exhibit 2 (in instances where both an Architect and Engineer are working together on the same project, the Architect shall be responsible for coordination of all the deliverables).
    - a) Create BlueBeam Studio Session. Architect and/or Engineer shall host and upload electronic deliverables to BlueBeam and invite identified project stakeholders.
  - 4) **Schedule and Notify Reviewers.** BJC Business Care Team receives the request and schedules a free calendar appointment for the duration of the review in PD&C Plan Room.
  - 5) **Project Review.** BJC project stakeholders review the project in BlueBeam Studio before the review period ends.
  - 6) **Comments Addressed.** Architect and/or Engineer shall address and reply to all stakeholders explaining the course of action for each comment. Any outstanding unresolved concerns shall be noted and addressed as necessary.

### 2.03 EXTERIOR DESIGN REVIEW/APPROVAL PROCESS

- A. There are two types of Exterior Design Reviews – Partial Exterior Review and Full Exterior Review. ALL PROJECTS THAT INCLUDE ANY AMOUNT OF EXTERIOR CONSTRUCTION SHALL FOLLOW THE APPROVED 5 STEP BJC APPROVAL PROCESS. ALL APPROVALS OF THE EXTERIOR DESIGN MUST BE APPROVED PRIOR TO THE START OF DESIGN DEVELOPMENT. Refer to Document 102.101 Architectural Design Guideline for additional information on the Exterior Design Review requirements.
1. Partial Exterior Review. The purpose of these reviews is for the Director of Design to be aware of and provide direction for minor exterior modifications.
  2. Full Exterior Review. The purpose of these reviews is for executive leadership to review, provide direction and approve designs for projects that have significant exterior visual impact.

#### 2.04 SUBMITTAL REVIEW

- A. Submittals. There are two types of submittals – Action Submittals and Informational Submittals. Both are submitted by the contractor to the Architect and/or Engineer of Record for review and response prior to the contractor securing the product or executing the associated Work.
- B. Action Submittal. Action submittals require the Architect and/or Engineer of Record to review and provide direction to the contractor regarding compliance with the contract documents. These can include samples, product data, and shop drawings. Architect shall consult with Owner for review of all action submittals.
- C. Owner Review of Samples. Samples, as a part of action submittals, shall be made available for review by PDC project manager and/or PDC Director of Design. A minimum of one set of all samples shall be located in the construction field office and be available for review at any time upon request. Review of samples (as part of action submittals and defined in specification section 013300) is a contractual obligation of the Architect or Engineer of Record. Architect or Engineer of Record must have Owner’s approval as identified below, prior to rendering a formal response to the contractor. In addition, all Substitution Requests that affect the submitted samples must be approved by Owner as identified.
- D. Exterior finishes. Examples of these exterior finishes in which samples are submitted by the contractor, as part of the submittal process, and reviewed by both the Architect of Record and Owner may include but not be limited to masonry units, mortar, storefront system framing, curtain-wall framing, glazing, exterior paint and coatings, sealants, exterior cladding materials and systems, and prefinished metal trim pieces and copings.
- E. Owner Approval. Only the PDC Director of Design is permitted to provide Owner’s approval prior to Architect or Engineer of Record rendering a written response to the contractor regarding exterior samples as a submittal and any substitution requests for exterior finishes.
- F. Interior finishes. Examples of these interior finishes in which samples are submitted by the contractor, as part of the submittal process, and reviewed by both the Architect

of Record and Owner may include but not be limited to paints and stains, floor coverings, ceilings, wall protection, door finishes, interior glass and glazing, tile, casework and countertop finishes.

- G. **Owner Approval.** PD&C Project Manager and/or Director of Design shall provide Owner's approval prior to Architect or Engineer of Record rendering a written response to the contractor regarding interior samples as a submittal and any substitution requests for interior finishes.
- H. **Owner Review of Product Data (Cut Sheets).** Product Data, also referred to as "cut sheet", is a type of action submittal. Product Data submitted to the Architect and/or Engineer of Record shall be made available for review by PDC project manager and/or PDC Director of Design. A minimum of one set of all Product Data submissions shall be located in the construction field office and be available for review at any time upon request. Review of Product Data (as part of action submittals and defined in specification section 013300) is an contractual obligation of the Architect or Engineer of Record. Architect or Engineer of Record must have Owner's approval as identified below, prior to rendering a formal response to the contractor.
- I. **Product Data.** Examples of Product Data that must be reviewed and approved by the Owner include but are not limited to toilet and washroom accessories, plumbing fixtures, lighting fixtures, metal lockers, roofing systems, under-slab vapor barriers, topical moisture mitigation systems.
- J. **Owner Review of Shop Drawings.** Shop Drawings are a type of action submittal. They are submitted to the Architect and/or Engineer of Record shall be made available for review by PDC project manager and/or PDC Director of Design. A minimum of one set of all Shop Drawing submissions shall be located in the construction field office and be available for review at any time upon request. Review of Shop Drawings (as part of action submittals and defined in specification section 013300) is a contractual obligation of the Architect or Engineer of Record. Architect or Engineer of Record must have Owner's approval as identified below, prior to rendering a formal response to the contractor.
- K. **Sheet vinyl seaming diagram.** A seaming diagram shall be provided to Owner for every project that is planned to have sheet vinyl flooring installed. PDC project manager and Corporate Architect shall review and provide direction regarding seaming locations.
- L. **Informational Submittal.** These include various types of documents that the Architect or Engineer needs only to review and be aware of – it does not require a responsive action. There are several types of informational submittals that may be required for a project however the focus of this guideline will address only material testing.
- M. **Material Testing.** As informational submittals, material testing reports are submitted to the Architect and/or Engineer of Record and shall be made available for review by PDC project manager. A minimum of one set of all material test and inspections shall be located in the construction field office and be available for review at any

time upon request. Review of material test and inspections is a contractual obligation of the Architect or Engineer of Record.

- N. Moisture testing of concrete slabs. Results of moisture testing for concrete slabs shall be provided to Owner for every project that is planned to have moisture sensitive flooring installed. PDC project manager and Corporate Architect shall review and provide direction to Architect of Record regarding moisture mitigation, if necessary.

## 2.05 MOCK-UP REVIEW

- A. Owner Review of Mock-ups. Mock-ups provide an opportunity for BJC to review the components of the exterior or interior elements for aesthetics, craftsmanship, coordination, and on occasion for performance testing.
- B. Exterior mock-up. Exterior mock-ups are required for all exterior projects that involve significant exterior improvements. Exterior mock-ups may be considered for other projects with lesser exterior work as directed by the PDC project manager and/or Director of Design.
- C. Design. Architect of Record to coordinate design of mock-up with PDC Corporate Architect and PDC project manager. Mockup shall be drawn by the design team and included in the contract documents. Provide structural support and detailing as necessary. Include all primary materials in a collection that represents the majority of exterior conditions.
- D. Location and Orientation. For projects where new materials are to match existing conditions, locate mockup within contract limits and adjacent to existing building for comparison.
- E. Mockup shall be constructed parallel and as close to the same plane as possible with the existing building.
- F. Mockup, and the portion of existing building used for comparison, shall in direct sunlight during daylight hours, south facing preferred.
- G. Size. Build mock of sufficient size to demonstrate the full range of predominant building materials.
- H. Mockup shall be a minimum of 8'-0" wide x 8'-0" high unless otherwise directed. Larger mock-ups may be required for larger projects. Larger mock-ups may be required for mock-ups that will be tested for air and water infiltration. Coordinate with PDC project manager.
- I. Notify Architect seven days in advance of dates and times when mockups will be constructed.
- J. Obtain Architect's and Owner's approval of mockups before starting work, fabrication, or construction.

- K. Allow seven days for initial review and each re-review of each mockup.
- L. Allow sufficient cleaning and drying time for all materials.
- M. Contractor shall maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
- N. Demolish and remove mockups when directed unless otherwise indicated.
- O. Exterior design control mockups may be serve as field testing mockups if required. Contractor shall coordinate design of mockup with field testing requirements.
- P. Interior mock-up. Interior mock-ups may be required on some projects. PDC Project Manager will provide direction to architect as needed.

## 2.06 CONSTRUCTION OBSERVATION

- A. Construction Review. BJC pays particular attention to certain construction elements for compliance with expectations. They include but are not limited to the following:
  - 1. General construction progress
  - 2. Under-slab vapor barrier installation
  - 3. Door and window opening installation
  - 4. Flashing and sealant installation
  - 5. Roofing installation
  - 6. Commissioning
  - 7. Punch list
  - 8. Warranty review
- B. Form. Architect and engineer shall use the jobsite observation form, reference 103.102.

## PART 3 - DOCUMENTATION

### 3.01 DELIVERABLE REQUIREMENTS

- A. Deliverables. Design Team shall verify list of required deliverables (as identified in Exhibit 2) and shall issue all documents to BJC PD&C project manager. Drawings, project manuals, and all other requested files shall be complete sets containing all required professional disciplines bound and submitted together. Architect is responsible to verify the issuance of complete sets.
- B. Drawing packages and project manuals are to be issued electronically as .PDF files. In some instances, the project manager may require printed sets.
  - 1. Electronic drawing sets containing less than 20 sheets in the complete set shall be submitted as one single PDF file containing all necessary sheets.

2. Electronic drawing sets containing more than 20 sheets in the complete set shall be submitted as multiple PDF files, bundled according to disciplines, and containing all necessary sheets.
  3. Project Manual. The project manual shall be bundled into one single PDF file. If the project manual is divided into more than volume due to size, the volume number shall be noted on the cover page of each set and each volume is permitted to be its own .PDF file. In any case, **DO NOT SUBMIT INDIVIDUAL FILES OF EACH SPECIFICATION SECTION.**
- C. Interior finish samples are to be issued in a 3-ring binder, and appropriately labeled to coordinate with the finishes in the finish schedule.
- D. The phrase “NOT FOR CONSTRUCTION” shall appear in each drawing and on the cover of the specifications.
- E. Clearly label the publication of a drawing set and specification set for BJC review according to the phase it represents and with the distinction of it being an Owner Review Set as follows:
1. SCHEMATIC DESIGN SET – OWNER REVIEW
  2. DESIGN DEVELOPMENT SET – OWNER REVIEW
  3. CONSTRUCTION DOCUMENT SET – OWNER REVIEW

PART 4 - SUPPORTING INFORMATION – Not used.

END OF DOCUMENT



**RESPONSIBILITY MATRIX**

The following matrix identifies those individuals, roles or departments responsible for maintaining the accuracy of the information and those responsible for providing input. Refer to Preface for detailed explanation.

|                      | BJC HealthCare                      |                                     |                                     |                                     |                                     |                                |                                 |                          |                          |                          |                           |                                  |                          | Hospital/Entity            |                          |                          |                          |                          |
|----------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------|---------------------------------|--------------------------|--------------------------|--------------------------|---------------------------|----------------------------------|--------------------------|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                      | PD&C                                |                                     |                                     |                                     |                                     |                                | Clinical Asset Management (CAM) | Risk Management          | Real Estate              | Ergonomics               | Infection Prevention (IP) | Info Systems, Data, Telecom (IS) | Other:                   | Standards Review Committee | Facilities Engineering   | Housekeeping             | Security                 | Other:                   |
|                      | Corporate Architect                 | Corporate Engineer                  | Director of Planning                | Director of Design                  | Director of Construction            | Sustainability Project Manager |                                 |                          |                          |                          |                           |                                  |                          |                            |                          |                          |                          |                          |
| Primary Authorship   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>       | <input type="checkbox"/>        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/>         | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Secondary Authorship | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/>         | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**DOCUMENT REVISION HISTORY**

The following table indicates the date the document originated and any subsequent revisions.

| Document 103.101 – Quality Assurance and Quality Control Guideline |                                |             |
|--|--------------------------------|-------------|
| Issue  | Description of Issue           | Prepared by |
| 2016 v1  | Original Issue                 | G. Zipfel   |
| 2018 v1  | Moved from 104.101 and updated | G. Zipfel   |
|  |                                |             |
|  |                                |             |
|  |                                |             |
|  |                                |             |
|  |                                |             |