

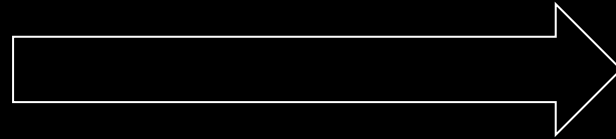
Workshop C: The Architect's Perspective: Building a Program for Quality Excellence

Jeanette Shaw, AIA, RID, LEED AP
Director of Quality and Sustainability
Powers Brown Architecture

Lecture Keynotes

Summary and History;

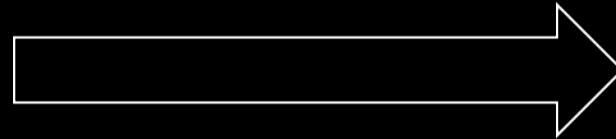
E X C U R S U S



At the beginning of each deck, as brief overview or abstract along with a brief history of its origin date, first presentation or generation

The big idea here is;

E X C U R S U S



Mid deck summaries of the main points for clarity & flow

Explainer

E X C U R S U S



Mid deck enhanced explanation of the details behind the main points for clarity and flow

E X C U R S U S

Summary and History;

This presentation serves to indicate what the components of a well-developed Quality Program are and to show firms how to create one.

- Going back to basics: Understanding the fundamental principles of a good quality management plan for any practice, and how this can be scaled up or down according to project requirements, size of company, and executive level of commitment
- Discussing the best methods to implement a company-wide program, engaging staff, other stakeholders, and ensuring dedication to quality management initiatives throughout the practice
- Exploring ways to ensure internal third-party reviews are properly conducted to verify proper coordination of all consultant drawings, confirm constructability, and establish that details are included for all critical elements of the design

***Note this program was created as a workshop, so there are points in here to stop and analyze your own firm and how it handles each of these steps now*

E X C U R S U S

About the Speaker:



Jeanette is a licensed Architect and registered interior designer who has 16 years of experience working on a wide range of project types including industrial, office, interiors, laboratories, mixed use, and high-rise condominiums. She has spent the majority of her career at Powers Brown Architecture, starting as an intern, then a Project Architect, Project Manager, and currently as the Director of Quality and Sustainability. Jeanette has a passion for technical proficiency and commands a team that comprises one of the premier QAQC programs among architecture firms in the nation.

Powers Brown Architecture was founded in 1999 in Houston, TX, and now has offices in Denver, Washington D.C., Toronto and St. John's, NL, Canada. Powers Brown Architecture consistently ranks as one of the top architecture firms in Houston, and holds national rankings among the nation's elite architecture-only firms. Powers Brown Architecture sets the standard for quality control procedures, which include pre-planning of documentation, identification of complex design and detailing areas on each project, third-party in-house drawing reviews which include all trades, and a premiere staff training program.



Jeanette and Powers Brown Architecture are proud to be the first Architect members of the **Construction Quality Executives Council (CQEC)**, an organization dedicated to a cross-industry initiative to improve construction project delivery through enhanced documentation and communication.

Definition of QAQC

Quality Assurance (QA) is “the maintenance of a desired level of quality in a service or product, especially by means of attention to every stage of the process of delivery or production.”

Quality Control (QC) is “a system of maintaining standards in manufactured products by testing a sample of the output against the specification.”

So, there are two steps inherent in the QA/QC system: establishing methods for creating a quality product and checking if the steps and processes are working to get you the desired outcome.

The big idea here is;

Many firms that say they value Quality spend a long time dealing with the “QC” portion of what is referred to as “QA/QC”...testing a sample of the product to confirm quality.

But in reality, most firms are not putting in enough effort to the “QA”.....putting systems in place to control every step of the production process to assure a quality product is created....

Every firm should take steps to implement better Quality Assurance systems and goals by developing a Quality Program to enhance the processes of documentation

E X C U R S U S

What is a Quality Program?

A Quality Program contains three basic principles:

- 1) Proper planning of documentation before work begins
- 2) Proper review of completed documents
- 3) Proper training of staff

Together we will expand on these later in the presentation, but first we need to answer the most important question:

[What are the obstacles to creating what seems like such a simple program?](#)

Explainer

At this point in the workshop, areas are identified for the attendee to analyze their firm in order to move forward...at all slides listed with TAKE ACTION the reader should stop and make notes of how their firm handles Quality....these notes will be important as we move through the workshop

E X C U R S U S

TAKE ACTION:

Knowing the 3 steps in a Quality Program, how does your firm currently deal with them? Are planning documentation, training/mentoring, and document checking formal processes? Are they always followed on all projects?

What would you think are key considerations for creating a Quality Program in your firm?

ACTION: List the items that must be considered in establishing a Quality Program in a design firm.



Answering the Question:

Why do design firms need a quality control program?

- 1) Pass along lessons learned to reduce repeating mistakes
- 2) Proper planning eliminates rework and saves the design team from drawing things that are not necessary
- 3) Proper reviews provide more complete and accurate documents which assist in eliminating errors in construction
- 4) Quality reviews do not have administrative costs – they are billed directly to the projects and built into the fees
- 5) Staff training can also fall under project costs as the training can be project specific
- 6) Quality reviews are a benefit to the owner, and actually can save them money

TAKE ACTION:

Why don't architects have Quality Programs?

What are the obstacles to implementation?

ACTION: List the reasons that you think architecture firms or other design organizations do not prioritize implementation of a Quality Program.



Explainer

Now that you have some lists focused on your firm to guide you a bit, let's examine some important considerations for each firm that can help with the next steps.....

PRACTICE CULTURE, PRACTICE SIZE, OWNER AGREEMENT,
IMPLEMENTATION

E X C U R S U S

Steps to establish a Quality Program

Practice Culture: The implementation should start by examining the culture of the practice. Some practices have a very loose approach to their culture and others may have a very stringent approach.



Steps to establish a Quality Program

Practice Size: A very small practice would likely approach the components of a quality program much differently than a very large practice. Large firms would have access to more resources, but companywide implementation over multiple offices would steer the components of the program, including presentation, standards, and training in a much different way from a practice with only a few staff members.



Steps to establish a Quality Program

Owner Agreement: Steps to implementing a new Quality Program must start with senior level discussion and buy-in for the program. The senior management should assign a quality director to manage the implementation goals and process. This team should review multiple options for establishing the steps for creating a Quality Program.



The big idea here is;

So we have established the WHY and the HOW of creating a Quality Program.....so let us now examine the WHAT in more detail....

WHAT is a Quality Program?

E X C U R S U S

What is a Quality Program?

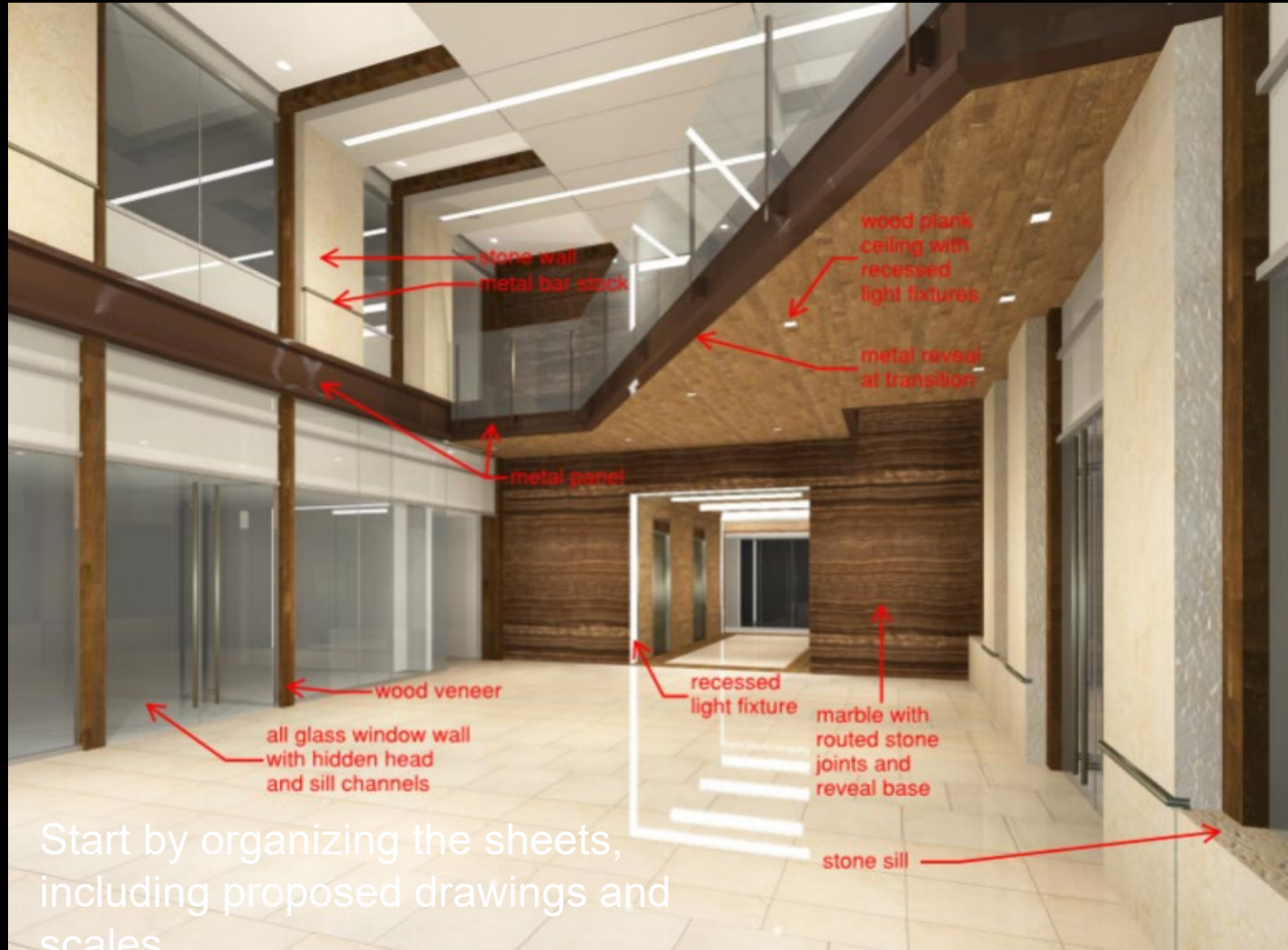
As an Architect, we are expected to establish the technical information that is required for a builder to complete the construction of a project. As most Architects know, developing these critical skills take years, and even decades.

There are three basic principle steps to establishing a Quality Program:

- 1) Proper planning of documentation before work begins
- 2) Proper review of completed documents
- 3) Proper training of staff

Proper Documentation Planning

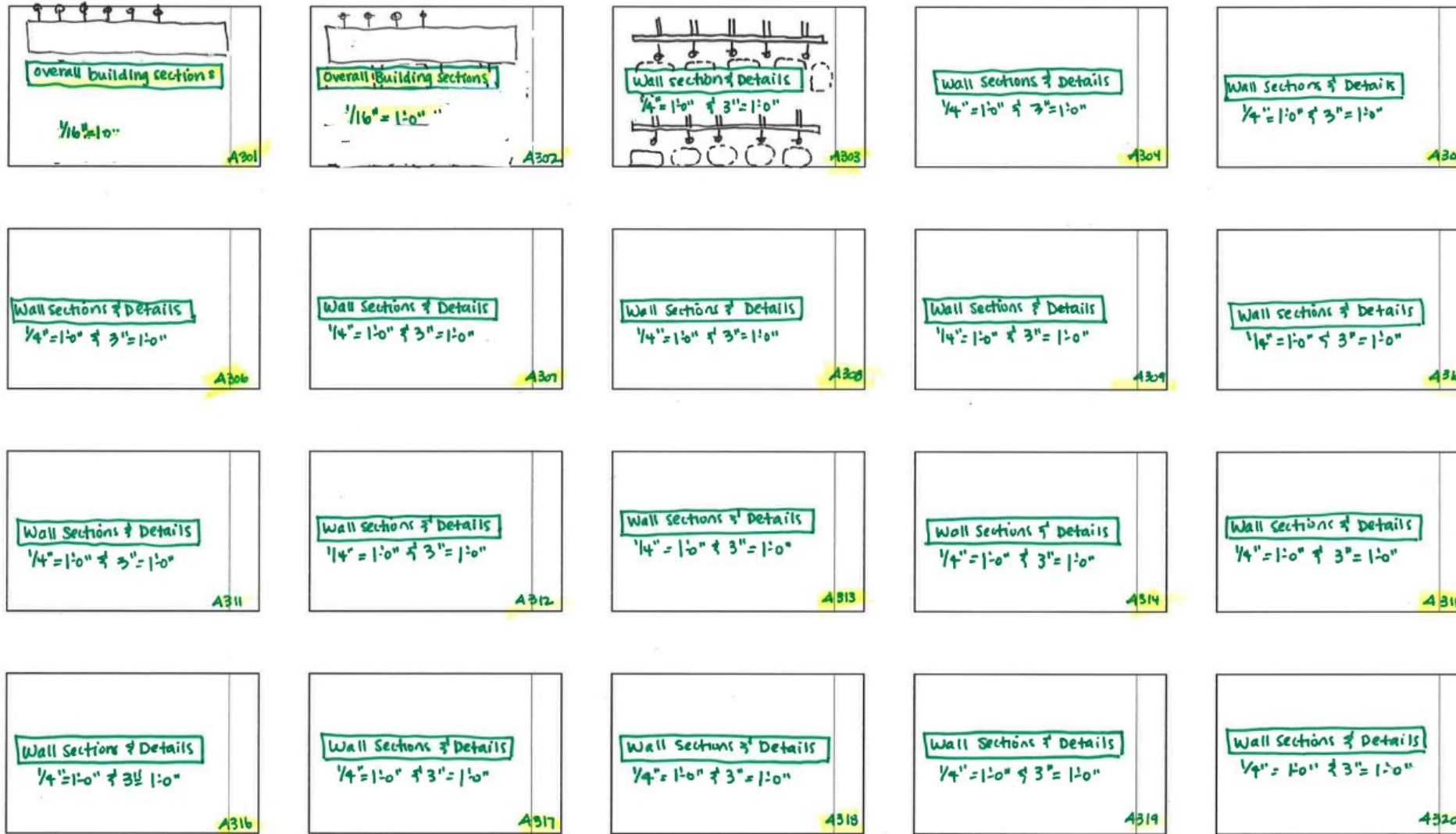
1) A complete understanding of design goals. Establish the critical design elements



Review the design with the design lead and confirm materials and material transitions desired to start with establishing details

Proper Documentation Planning

2) A cartoon set must be established. The cartoon set is not static – it is developed iteratively

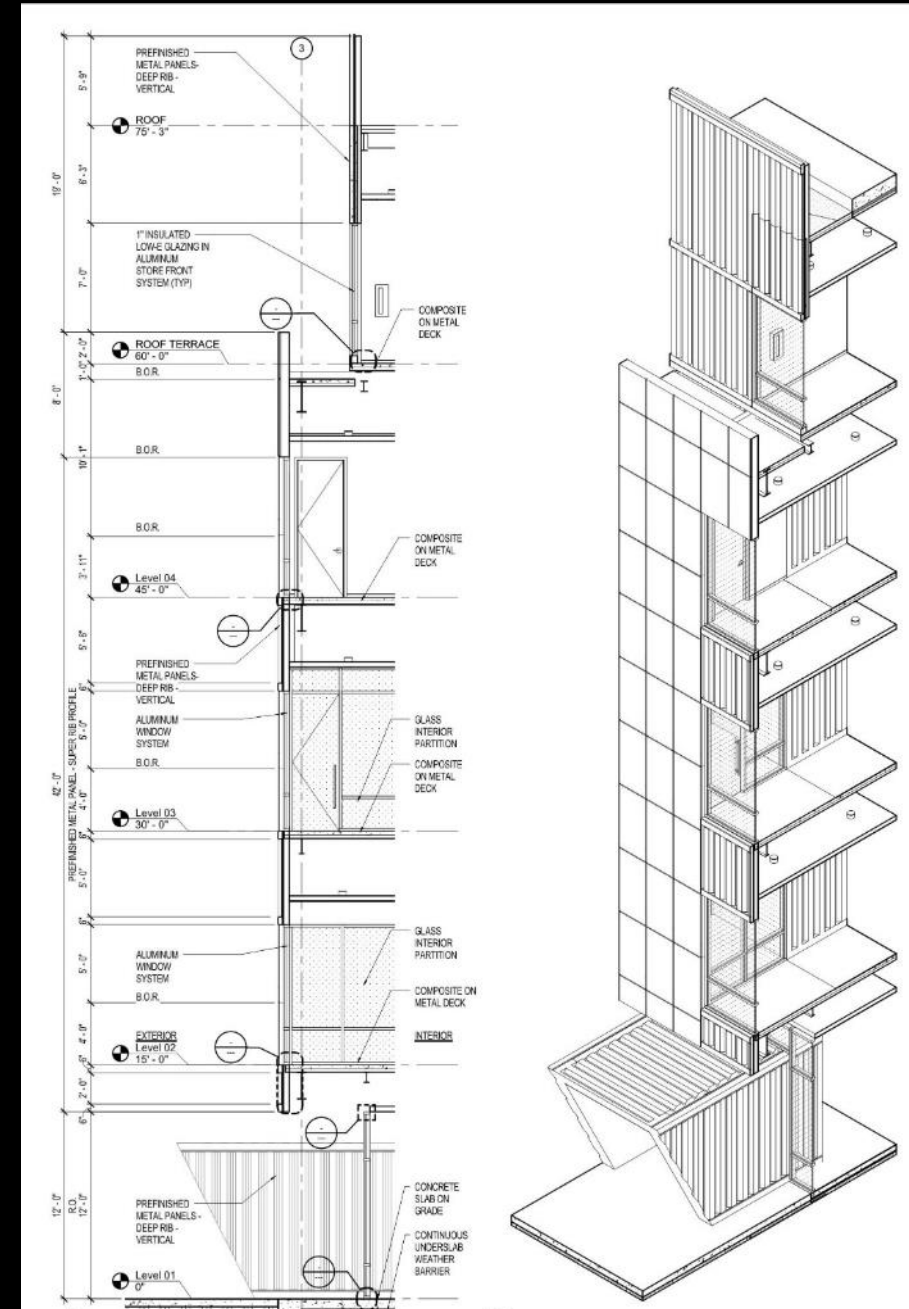
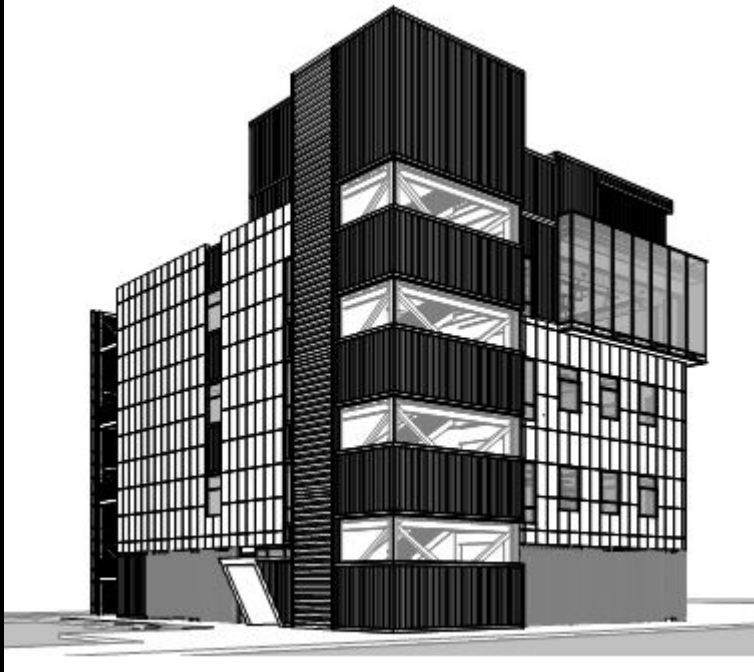


Start by organizing the sheets, including proposed drawings and scales

[illegible]

Proper Documentation Planning

3) Confirm the constructability concerns and issues. Do the hardest things first



Proper Drawing Reviews

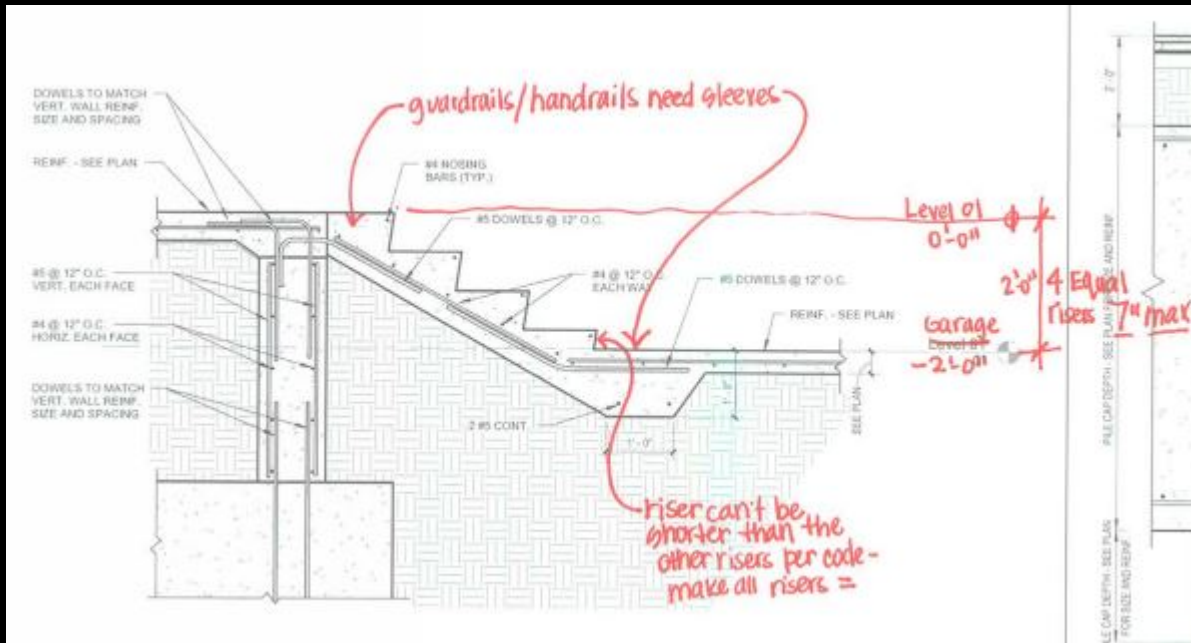
It is critical to any practice to have more experienced staff to perform an internal review of the drawings, but reviews should not just occur at the end when the drawings are “done”. Often times at the end, it is harder to make corrections or changes to the drawings as these could have a major impact on budget or schedule, and could make the Architect look like they made a major mistake to a client. Therefore, periodic reviews are recommended.

- 1) Perform code check. Initial code review should be completed during design development
- 2) Redlines should be reviewed daily by Project Team Leader
- 3) Review documents for compliance with established design intent
- 4) After drawings are sealed, an internal third-party document review should occur for the complete drawing set, including consultant drawings
- 5) All consultants should also provide their own third party document reviews and share them with the design team
- 6) Send document reviews to all team members and require updates to the documents for formal issue to the general contractor and owner before construction commences, but preferably before the final construction contract is signed

Highlight completed items, items for additional questions, or items for coordination in **green**

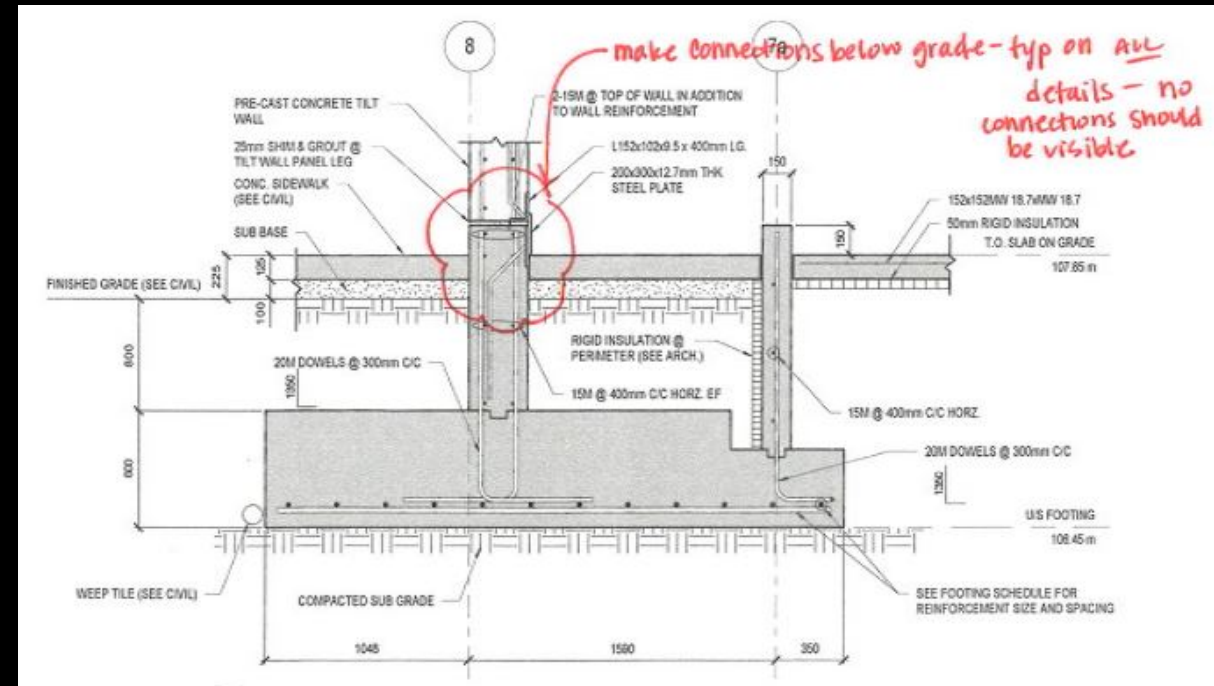
Code should be applied to all trades

Code should be applied to all trades



This could include review of multiple trades for compliance

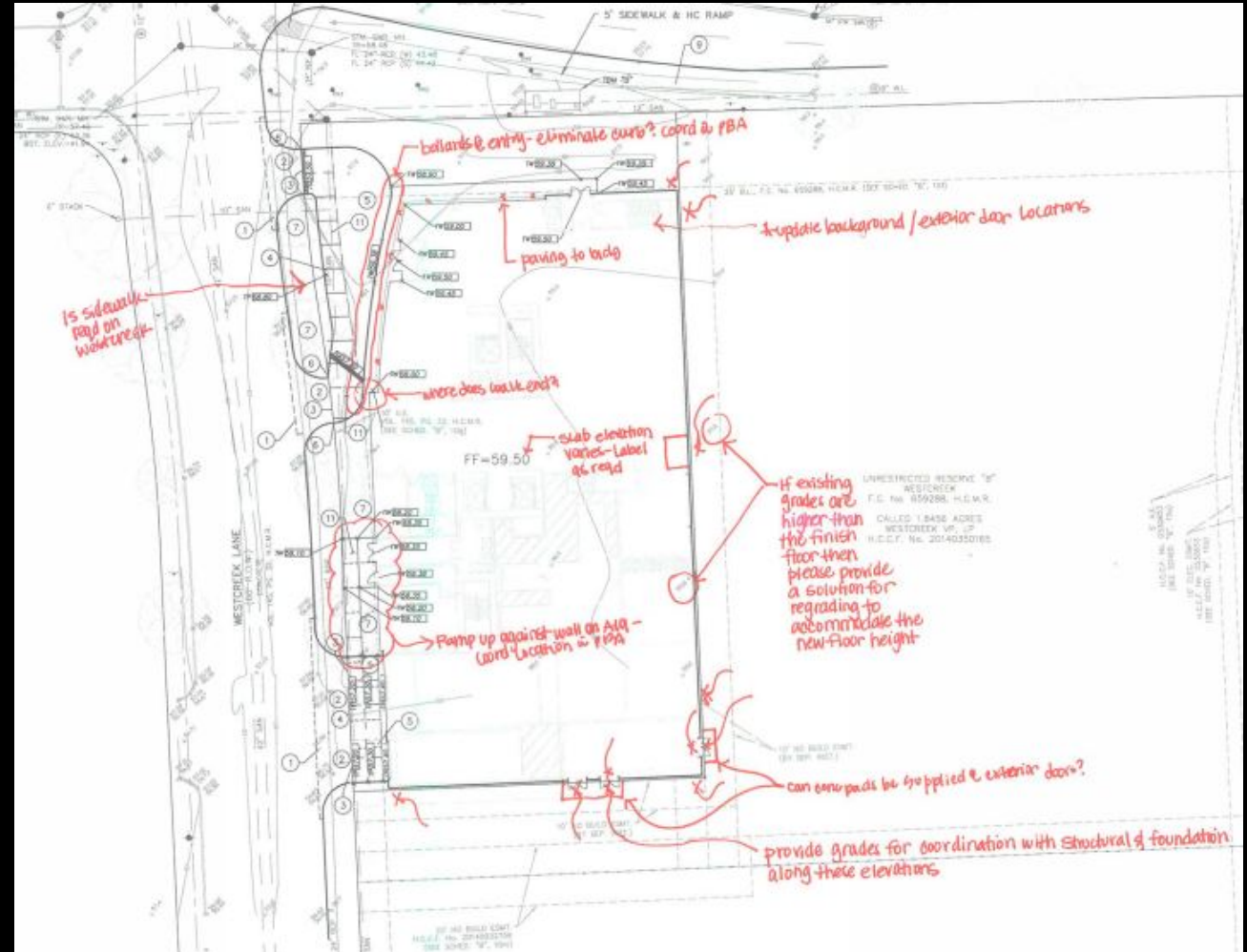
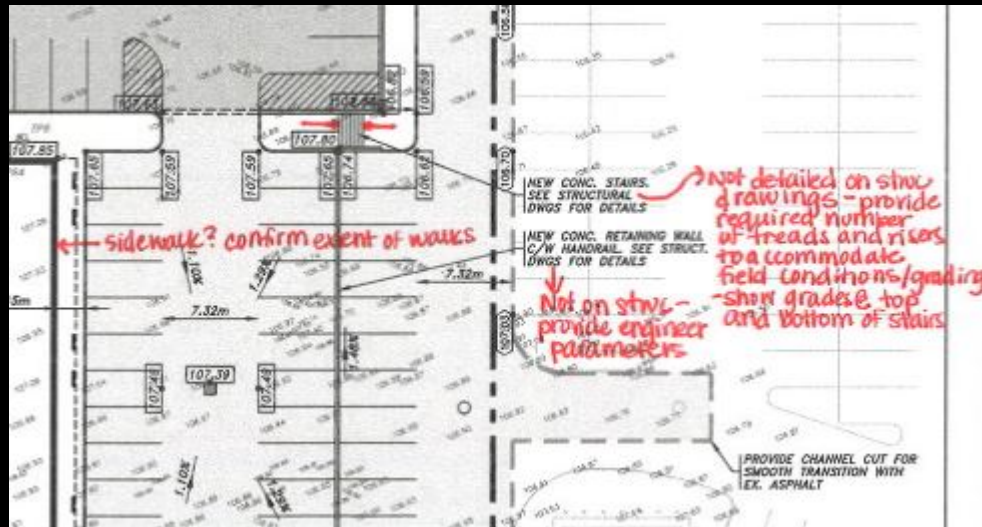
This could include review of multiple trades for compliance



Complete an In-House Third Party Review of the Contract Documents

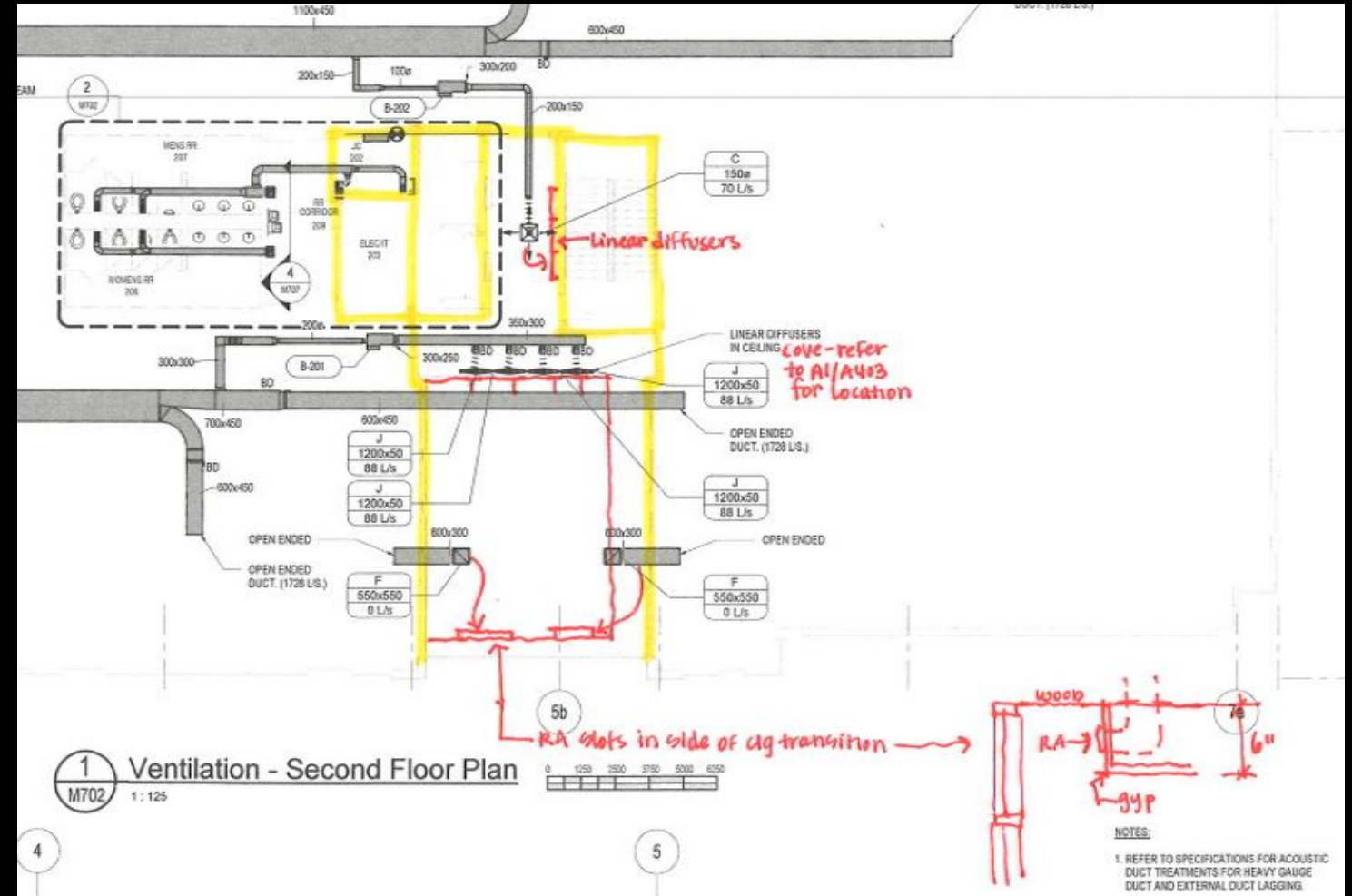
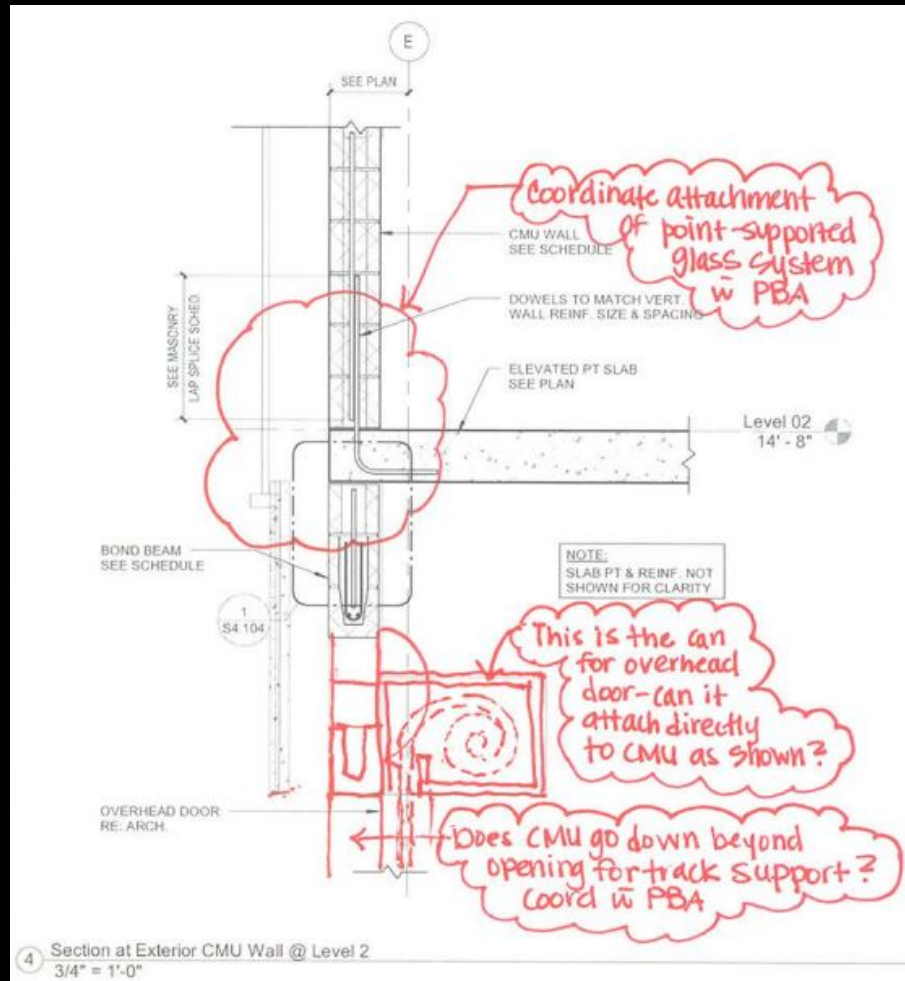
Review at Issue for Permit

Review all trades for coordination



Complete an In-House Third Party Review of the Contract Documents

Review all trades for coordination



Proper Staff Training

Probably the most critical element of any Quality Program is the training and mentoring of interns and junior Architects. It is also, perhaps, the most difficult part of the Quality Program to establish and maintain. Mentoring is the most important role of any senior Architect, but it is difficult to do for many. It requires great patience and time and effort by senior staff who are often the busiest people in the practice. Mentoring and training should include the following elements:

- 1) Taking steps to explain what is being drawn and why
- 2) Taking steps to explain the building codes and requirements
- 3) Explaining what materials are, how they mount, and why they are installed in a certain way
- 4) Architects should pass along at least a basic understanding of how to talk to clients, consultants, and contractors. This should include an understanding of systems and terms that relate to consultant documents as well as experience on how to manage client expectations.
- 5) Passing along a basic understanding of contracts and Architect's responsibilities on projects is also critical

TAKE ACTION: Create an Action Plan

What can you do in your company to create a Quality Program with all of the proper steps?

What ideas would help get corporate buy-in for the program?

What are some good things you learned that you want to make sure are part of your program as you set it up?

ACTION: Spend time creating an action plan for your firm.



Questions?

Jeanette Shaw, AIA, RID, LEED AP
Director of Quality and Sustainability
Powers Brown Architecture
shaw@powersbrown.com