

Concrete in Practice

What, why & how?



CIP 32 - Concrete Pre-Construction Conference

WHAT is a Pre-Construction Conference

Prior to the start of a job, especially for major projects, a concrete pre-construction conference (sometimes called a pre-pour meeting) should be held to define and allocate responsibilities of the entire construction team. The stakeholders on a project typically include the ready mixed concrete supplier, owner, architect, structural engineer, general contractor, sub-contractors, testing agencies, inspectors, and other trades. The meeting should be scheduled in advance of the project and include the relevant stakeholders to outline details, schedules, contingencies, changes, and dealing with non conformances. Decisions should be recorded and distributed, and contact information exchanged.

WHY Should One be Scheduled

Every construction project is unique in its overall scope and specific details. Projects bring together different companies, personnel, and procedures. Even companies that have worked together before, can have personnel changes with realigned individual responsibilities. Pre-construction conferences are useful to establish details of how a job will be executed, identify the authorized contacts for various aspects, and what should be done if things do not go as planned. In too many cases, projects are started without a clear understanding of assigned responsibilities resulting in extra work, lost time, and major expenses. A brief pre-construction meeting could have prevented some, if not all these problems from occurring. Having this meeting serves to document the chain of responsibilities, which can be referenced when needed.

HOW to Conduct Pre-Construction Conferences

The pre-construction conference agenda should include the following to cover necessary details .

Purpose: To define and allocate individual responsibilities of the concrete construction team

Subject: Pre-construction agenda, concrete mixtures, placement, inspection and testing



Project Name and Location: Establish the project name and address.

Personnel to Attend: Contractor's project manager, owner's representative, architect, engineer, concrete subcontractor, concrete producer's technical services and sales representatives, pumping contractor, testing agency supervisor, inspector, construction manager, and other necessary stakeholders.

Minutes of the Meeting: Should be recorded and sent to distribution list established at meeting.

Concrete Mixtures and Specifications: Approval process for concrete mixtures. Have proposed mixtures been approved? Additional pre-qualification tests and time frame for submittal. Requirements of the contractor not addressed in the specification. Specification conflicts that can impact construction. Mixture adjustments permitted without submittal/notification. Alternatives that can improve construction and who authorizes requests.

Ordering Concrete and Scheduling Deliveries: Ensure that concrete delivery schedules and rate of delivery are established. Establish lead-time needed for orders, especially for large placements or special mixtures; establish contacts and authority for last minute delays and/or cancellations. Communication between plant and jobsite for corrections. Establish truck staging areas and location to wash out trucks or to dispose excess concrete.

Plant Inspections: Are plant inspections required and if so by whom and the scope? Will NRMCA certification or DOT approved status be accepted?

Define lead time for inspection of plants and delivery vehicles.

Inspections: Responsible party for inspection and approval to include forms and reinforcement details prior to concrete placement; adequacy of subgrade for concrete slabs on grade; placement and consolidation of concrete; methods of finishing, curing and protection of construction and applicable duration; minimum in-place concrete strength for stripping forms; method for estimating in-place strength; authority to permit form stripping, post-tensioning and other design-related scheduled activities. Details of curing process for field-cured cylinders if used. Are there variations to inspection requirements in hot or cold weather? Any restrictions to jobsite adjustments and who has the authority to request and approve these?

Sampling and Testing: Does the testing agency conform to ASTM C1077; are field and lab technicians certified? Procedure and location for sampling concrete for tests. Frequency of sampling and testing concrete. What tests will be performed? Number of test cylinders, curing process, ages tested. Details of any other hardened concrete tests.

Acceptance and Rejection of Concrete: Establish acceptance tolerances for slump or slump flow, air content, density, and temperature. Are there delivery limitations on number of revolutions or time. Basis for rejecting loads and authority. Establish re-test procedures before rejecting loads.

Specimen Handling: Establish the facilities at the jobsite for curing of strength and other test specimens—will a space and facility be made available for initial curing and by whom, source of power and water, jobsite access on weekends and holidays, monitoring of temperature and moisture conditions in accordance with ASTM C31, when

will cylinders be picked up and where will they be transported to, what is the transportation time. How will cylinders be handled at the laboratory.

Report Distribution and Acceptance Criteria: Define the time frame for the report distribution and who will receive the reports. Are the acceptance criteria consistent with ACI 318, ACI 301 and ASTM C94, or different? Criteria that trigger a low strength evaluation. How will this be conducted and who bears the costs based on the subsequent results.

Testing of In-Place Concrete: The meeting should address what situations will require additional testing or in-place concrete and what corrective action will be necessary. How will the results be evaluated, and by whom? Who incurs the cost for additional evaluations?

The items discussed above are examples of some, but probably not all the issues that should be discussed at a pre-construction conference. It also provides the opportunity for all involved parties to thoroughly review the specification, drawings, and contract documents and if necessary make appropriate changes that will ensure a successful project. It will also provide an an opportunity to assign responsibilities, which should be documented, for future reference.

References

1. *NRMCA-ASCC Checklist for the Concrete Pre-Construction Conference*, NRMCA, Alexandria, VA, www.nrmca.org
 2. *ASCC-NRMCA Checklist for Concrete Producer-Concrete Contractor Fresh Concrete Performance Expectations*, NRMCA, Alexandria, VA, www.nrmca.org/p2p
 3. *ACI 301 and ACI 318*, Specification and Code for Structural Concrete, ACI, Farmington Hills, MI, www.concrete.org
 4. *ASTM Standards—C31, C39, C94*, ASTM International, West Conshohocken, PA, www.astm.org.
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SUGGESTED PRE-CONSTRUCTION CONFERENCE AGENDA TOPICS

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| <ul style="list-style-type: none">• Project information and schedule• Project participants• Specification requirements• Submittals and approval process• Changes to specifications• Construction sequence and processes• Subgrade requirements / approval• Site access• Power, lighting, water• Formwork and criteria for removal• Placing concrete - equipment and procedures | <ul style="list-style-type: none">• Vapor retarders/barriers• Consolidation• Finishing• Jointing• Requirements for surface finishes• Curing and protection• Sealing• Hot and cold weather precautions• Concrete materials and mixtures• Jobsite adjustments• Special materials and mixtures• Ordering and scheduling concrete delivery | <ul style="list-style-type: none">• Quality control / Quality assurance• Report distribution• Corrective actions• Test specimen storage, transportation and testing• Acceptance/rejection of fresh and hardened concrete• In-place concrete strength evaluation• Dispute resolution and associated cost• Jobsite environmental management• Jobsite safety |
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66 Canal Center Plaza, Ste. 250, Alexandria VA 22314 • www.nrmca.org

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