



Structural Concrete Preconstruction Agenda

IMPORTANT:

1. This preconstruction meeting must occur prior to the start of any work. All concrete deferred submittals must be reviewed and approved by the City of Bellevue (COB) prior to start of work.
2. This document is a general guideline to coordinate the requirements and expectations of a construction project to the contractor, subcontractors, and special inspectors hired to perform the work. At this meeting, the approved drawings and documents should be thoroughly reviewed with major items discussed by the participants. The information noted below is not considered as a substitute for the approved construction documents, and any proposed deviations should be evaluated by the engineer of record (EOR) and requires a separate (written) approval by COB.

Project Name: _____

Date: _____

Project Team	Name/Company	Phone	Email
COB Building Inspector			
Engineer of Record (EOR)			
General Contractor			
Concrete Subcontractor			
Special Inspector			

GENERAL

Discuss procedures for corrections, engineer clarifications, and documentation of nonconformance issues (e.g., access to RFIs, etc.).

Note: Substantial changes will need to be submitted to the City of Bellevue for review. Generally, changes that require calculations must be submitted as a post-issuance revision for review/approval by COB. Please review COB's [Inspection and Construction Guidelines](#).

REFERENCE STANDARDS AND APPLICABLE CODES

- _____ International Building Code
- ACI 318-___ Building Code Requirements for Structural Concrete
- ACI 117___ Specifications for Tolerances for Concrete Construction and Materials
- ACI 301___ Specifications for Structural Concrete

Others (e.g., Project specifications, alternative design and methods, etc.):

DEFERRED SUBMITTALS AND CERTIFICATIONS

Deferred submittals and certifications must be available on site at the start, during, and at the completion of the project for verification by the City of Bellevue (COB) inspector(s) and special inspector(s).

The following concrete deferred submittals are required to be reviewed and approved by COB for this project:

Deferred Submittal	Yes	No
Concrete Mix Designs (more than 4,000 psi)	<input type="checkbox"/>	<input type="checkbox"/>
Design of hollow-core planks and precast concrete elements	<input type="checkbox"/>	<input type="checkbox"/>
Hold-down systems	<input type="checkbox"/>	<input type="checkbox"/>
Embeds:	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>

Concrete Mix Designs.

Are any portions of the structure identified as having the following Exposure Classes?

- F1, F2, or F3 (exposure to freezing and thawing)
- S1, S2, or S3 (sulfate exposure)
- W1 (in contact with water and low permeability is required)
- C1 or C2 (corrosion protection of reinforcement/chloride exposure)

If any of the items above we selected, please provide additional information:

Are any lightweight concrete mixes specified on the project? Yes No. If yes, identify those portions of the structure to be constructed with lightweight concrete. Note: [Batch plant inspection](#) is required for lightweight concrete mixes.

Shotcrete

Are any portions of the structure to be constructed of shotcrete? Yes No.
A separate Shotcrete Preconstruction meeting is required prior to the start of shotcrete work.

Prestressed/Post Tensioned Concrete

Are any portions of the structure to be constructed of prestressed or post-tensioned concrete (PT)? Yes No.
A separate PT concrete preconstruction meeting is required prior to the start of PT work.

MATERIALS

Steel Reinforcement Properties

Reference the structural drawings for standard(s) and grade(s) for items such as reinforcing bars, smooth welded wire fabric, deformed welded wire fabric, bar supports, tie wire, stud rails, and headed deformed bars.

Does any deformed reinforcement a strength greater than GR 60 required on the project (e.g., Grade 80, Grade 100)? Yes No.

Seismic Requirements for Steel Reinforcement

Are there locations where ASTM A706 is required in special seismic systems? Yes No.
If yes, please identify the locations where it is required for this project:

- Special Moment Frames
- Special Structural Walls:
 - Longitudinal Reinforcement
 - Coupling Beams
 - Wall Piers

Is ASTM A615, Grade 60 reinforcement meeting the following requirements being proposed as an alternative to ASTM A706, Grade 60 reinforcement? Yes No

Alternate requirements:

- i. Actual yield strength based on mill tests and does not exceed f_y by more than 18,000 psi.
- ii. Ratio of actual tensile strength to the actual yield strength is at least 1.25.
- iii. Minimum elongation in 8 inches shall be at least 14% for bar sizes No. 3-6, at least 12% for bar sizes No. 7-11, and at least 10% for bar sizes No. 14-18.
- iv. Others as required by EOR.

Note: ASTM A615 Grade 80 and Grade 100 are not permitted to resist moment and axial forces in special seismic systems.

Stud Rails

Are stud rails required for this project? Yes No—If yes, identify where they are being used on this project.

Cast-In-Place (CIP) Cover/Reinforcement Protection, Lap Splice, and Development Length

Reference the structural drawings for required concrete cover, corrosion protection, lap splices, and development lengths.

Mechanical Splicing

Are mechanical splices proposed for this project? Yes No. If so, where?

Is approval by the EOR required prior to use? Yes No

Welding of Reinforcing Bars

Are welding of reinforcing bars proposed for this project? Yes No. If so, where?

Is approval by the EOR required prior to use? Yes No. Inspection of reinforcement welding is required to be performed by a WABO Certified welding inspector in accordance with AWS D1.4. The weldability of reinforcement other than ASTM A706 is required to be confirmed by test reports in accordance with ACI 318 Section 26.6.4.

Headed/T-Bars

Are headed or T-bar proposed for this project? Yes No.

Is approval by the EOR required prior to use? Yes No

Field Bending

Field bending or straightening must conform to ACI 301. Is field bending allowed for this project?
 Yes No—If yes, specify locations where it is permitted.

Concrete Curing

Curing procedures as specified in the structural drawings and specifications must be followed. Good curing is one of the most important strategies in creating quality concrete. Please describe the curing process for this project:

Formwork and Shoring

What concrete strength is required to be attained before formwork and shoring can be removed?

Other Embedded Items

Are waterstops, sleeves, inserts, movement joints, or keyways proposed for this project? Yes No—If yes, please identify materials and locations. (ACI 301 2.2.1.5, 2.2.5)

Over-Framing or Structural Foam Fill

Is rigid insulation proposed as infill or for built-up construction? What are the requirements for the approved rigid insulation identified on the COB-approved plans?

Is approval by the EOR required prior to use? Yes No. If yes, the contractor will be required to provide the EOR-approved submittal at the time of inspection(s).

DETAILING

Puddling

Is higher strength concrete proposed in floor systems around columns or shear walls where the columns or shear walls have significantly higher concrete strength than the floor (“puddling”)?

Yes No—If yes, identify the location in the structural drawings where requirements are found.

Construction Joints

Construction joints must be identified and detailed in the COB-approved plans. Alternate locations must be approved by the EOR. Use of adhesives, surface retardants, grout, or surface roughening must be as required and approved by the EOR.

Standard Hooks

Hooks and bends must be detailed in accordance with ACI 315 and ACI 318. Are there any unique requirements in this project? Yes No. Reference the structural drawings to find standard hook requirements for this project.

Terminators

Are terminators approved for this project as an alternate to standard hooks? Yes No.

Is approval by the EOR required prior to use? Yes No

Tolerances on Fabrication and Placement of Reinforcement

Construction tolerances for member size and location should be incorporated in construction documents by reference to ACI 318 (Section 26.6.2) and ACI 117 for cast-in-place construction. Specific project tolerances that are more restrictive or that are not covered in the reference standard should also be included. Reinforcement placement tolerances at atypical and critical locations such as special boundary zones, heavy lap splice regions and geometric transitions should be evaluated by the EOR for acceptance.

Embeds and Anchorage

Embeds and anchorage for exterior cladding, elevators, steel columns, etc. must be detailed in drawings and designed by a registered design professional in the State of Washington. If these are not designed by the EOR, the design must be reviewed by the EOR and submitted to COB as a deferred submittal for review and approval. The COB-approved deferred submittal must be made available at the time of inspection.

Fire Resistance Requirements

What is the required fire-resistance rating of the concrete structural elements?

Building Element	Hourly Rating
Primary Structural Frame	
Columns	
Beams	
Other:	
Bearing walls	
Exterior	
Interior	
Floors Construction	
Roof Construction	
Horizontal Separation (510.2)	

Penetrations Near Columns at Slabs, Slab Edges, etc.

Are penetrations near columns at slabs, slab edges, shear walls, beams, and/or other structural members restricted? Yes No.

If yes, has this been approved as part of the review by the EOR? Yes No

Slabs

When welded wire reinforcement is used, it should not be placed on the ground and pulled up after placement of the concrete, nor should the mats be walked in after placing the concrete. Proper support spacing is necessary to maintain welded wire reinforcement at the proper elevation; supports should be close enough such that welded wire reinforcement cannot be forced out of location by construction foot traffic. Support spacing can be increased when heavier gauge wires or a double mat of small-gauge wires is used. Reference ACI 301-15 Section 3.3 and ACI 302.1R-15.

Crane Footings

Crane foundations and anchorage are the jurisdiction of L&I. Crane foundations integrated into the building foundation must be submitted to the COB for review & approval. COB review is for the foundation element in the final building configuration, without consideration to crane loading.

STRUCTURAL OBSERVATION

Where structural observations are required per IBC 1704.6, the structural observer must submit a structural observation program outlining the items scheduled for observation and a general description of when structural observation is intended to occur. Copies of structural observation reports must be on site for review by inspectors. By the conclusion of the project, COB must be provided with a final letter from the structural observer summarizing the work observed, and identifying any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.

In the space provided below, please provide a summary of the required structural observations for this project.

SPECIAL INSPECTIONS

Review the statement of special inspections and go over the frequency of special inspections (i.e., periodic or continuous). Where unclear, the EOR needs to define the frequency of specific tasks for periodic special inspections. Special Inspections will be documented based on the COB-approved plans. Special inspections may also be requested by the building inspector.

Special inspectors must have a Certificate of Registration for each type of inspection performed and must be WABO-certified. A resident special inspector is required for all high-rise projects and may be required for other large or complex projects, as determined by the Building structural plan reviewer. It is recommended that a copy of all special inspectors' registrations, picture IDs, and contact numbers be available on site for the building inspector.

Special inspection reports must refer to the permit number, job address as they appear on the building permit, work that was inspected, and refer to RFIs and other changes from the COB-approved plans to avoid rejection of reports. Copies of all reports must remain on site with the permit and approved plans. COB inspectors are responsible for checking the work to make sure it complies with the code and that the special inspector is fulfilling his or her obligations.

All work must be approved by the building inspector prior to concealing work, regardless of special inspection approval, unless waived by the Building Official or the building inspector.

By the conclusion of the project, COB must be provided with a final letter from the special inspection agency summarizing the work inspected and tested, and correction of any discrepancies noted in the inspections or tests. This will be required prior to the issuance of a building final or TCO/CO. A copy of this letter must also remain on site for the building inspector.

Batch Plant Inspection

COB requires batch plant inspection under any of the following circumstances:

1. Concrete mixes prepared in a batch plant that is not certified by the National Ready Mix Concrete Association
2. All structural lightweight concrete mixes
3. Concrete mixes with a compressive strength greater than 8,000 psi
4. Concrete mixes containing alternate materials
5. Other unusual circumstances as determined by the Building Official

Concrete Strength: Greater than 8,000 psi and less than or equal to 10,000 psi

Continuous batch plant inspection is required for concrete mix designs with a strength greater than 8,000 psi and less than or equal to 10,000 psi. Continuous batch plant inspection may be waived by the EOR subject to the approval of the Building Official if all of the following conditions are met:

1. The concrete plant complies fully with the requirements of ASTM C94, Sections 9 and 10 and has a current certificate from the National Ready Mixed Concrete Association or another agency acceptable to the Building Official. The certification shall indicate that the plant has automatic batching and recording capabilities.
2. Documentation has been provided to and approved by the COB Building Official for the specific project.

Concrete Strength: Greater than 10,000 psi

Continuous batch plant inspection is required. Continuous batch inspection may be reduced to periodic batch plant inspection based on mix performance success and approval by the COB Building Official.

Responsibilities

It is imperative that the EOR and contractor provide written request and supporting documentation to COB for any requests to waive continuous batch plant inspections for concrete mixes that have a compressive strength greater than 10,000 psi.

Post Installed Anchors (PIAs) to Concrete

Post-installed anchor (PIA) location, type, diameter, embedment, etc. must be installed as shown in the plans. Mechanical and adhesive PIAs must be special inspected in strict accordance with the Manufacturer's Printed Installation Instructions (MPII) and current evaluation reports (e.g., ICC ESR, IAPMO, etc.).

Epoxied Dowels

Dowel location, type, diameter, embedment, etc. must be installed as shown in the plans. Epoxied dowels must be special inspected in strict conformance with the applicable evaluation report (e.g., ICC ESR, IAPMO, etc.).

SEQUENCE OF INSPECTIONS

Areas of inspection must be ready when the inspection is requested. No area requiring an inspection can be concealed prior to the inspection. COB is required by law to perform inspections prior to concealment. Areas covered without inspection will be required to be uncovered, at the contractor's expense, to allow inspection. It is the general contractor's responsibility to ensure that the required inspections are completed and approved prior to concealment.

All special inspection reports must be written or printed on site. Failure to have the report on hand will result in cancellation of the inspection. The contractor must manage the project's schedule to give the special inspectors sufficient time to complete his/her inspections as coordination between the special and building inspector cannot be guaranteed. Requests for inspections at specific times are not guaranteed and it is expected that areas of inspection are ready when requested. It is not recommended to request an inspection on the same day as concrete placement. Coordination may not be possible due to conflicting schedules or other obligations.

Contractors must address limited access issues due to security, lack of elevators, etc., prior to the inspector's arrival.

Each contractor requesting an inspection should have a representative on site that will accompany the inspector during the inspection process. The contact phone number of this person must be the same as the contact number on the inspection request. On larger projects the building inspector will provide an inspection sign-off book. This book is used to track inspection approvals throughout the life of the project. The contractor must help maintain this book by making it available to all inspection staff.

If corrections are issued, the work must be corrected, and another inspection scheduled before proceeding to the next phase of the project. Re-inspections requested when corrections have not been completed and repeated requests for inspections made when work is incomplete are subject to a re-inspection fee.

Work being done without approval or repeated disregard for the inspector's corrections may be subject to a Stop Work Order. No inspections will be done, per the requirements stated on the Stop Work Order, until the inspector's corrections have been addressed.

Typical Concrete Inspections

210 – Footings

212 – Foundation (e.g., stem walls, walls, etc.)

216 – Columns/Pilasters

220 – Insulation Slabs (typically used when insulation is installed to meet Energy Code requirements)

222 – Structural Slab (e.g., slabs on metal decks, slabs-on-grade, elevated slabs that are not PT decks, etc.)

232 – Tilt-up Walls

244 – Interior Shear (used for concrete shear walls)

Inspection processes 209 (rebar) and 218 (seismic) are used seldomly. Verify with your building inspector about these processes.

Energy Code Requirements

The contractor is responsible for reviewing the Energy Code requirements for rigid insulation and other requirements as they pertain to concrete construction.

Live Load Posting

COB requires live load posting for each floor or roof designed for live load exceeding 125 psf. COB also requires the maximum weight of vehicles allowed into or on a structure to be conspicuously posted on durable signs, by the owner or the owner's authorized agent. The location of the signs should be coordinated with the transportation reviewer. Are there areas that will require live load posting? Yes No

REPAIRS AND NONCONFORMANCE ISSUES

Where repairs are needed or when major nonconformance issues arise, the proposed repair procedures must be reviewed and approved by COB prior to commencing the repair.

Concrete Crack Repairs

As concrete shrinks, cracking will typically occur, and cracks may or may not impair the integrity of structure. Does this project have a concrete crack repair procedure? Yes No—If yes, what are the requirements for this project?

Evaluation and Acceptance of Hardened Concrete

What are the strength testing and acceptance requirements for this project? Specify if more frequent sampling and testing will be required. More frequent sampling is typical with high-strength concrete, such as columns and shear walls. Specify if compressive test specimens are to be tested at ages other than 28 days.

What are the procedures if a compressive test specimen does not meet the strength testing and acceptance requirements?

Is modulus of elasticity testing of concrete mixtures required? Yes No—If yes, identify which structural members in the space below.

All reports of acceptance tests shall be provided to the EOR, contractor, concrete producer, and, if requested, to the owner and the COB.

WEATHER PROVISIONS

Refer to COB's [Concrete Placement in Cold and Hot Weather Conditions](#) Memorandum.

OTHER ISSUES