Statement of Special Inspections

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☑ Soils and Foundations
- ☑ Cast-in-Place Concrete
- ☐ Special Cases
- ☑ Structural Steel
- ☑ Wood Construction
- ☑ Masonry

General Notes

The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

The qualifications of all personnel performing Special Inspections and testing activities are subject to the approval of the Building Official and E.O.R. The credentials of all inspectors and testing technicians shall be provided if requested.

The special inspectors shall keep records of inspections and shall furnish inspection reports to the owner, Engineer of Record (E.O.R.) and Architect of Record (A.O.R.). Field and testing result reports shall be submitted to all designated parties as they are completed. The reports shall indicate that the work performed was done in accordance to the construction drawings. Discrepancies shall be brought to the attention of the general contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the E.O.R. prior to completion of that phase of work. A final report that documents required special inspections and corrections of discrepancies shall be submitted by the General Contractor to the Owner, E.O.R. and A.O.R.

Soils and Foundations

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Shallow Foundations	*Inspect soils below footings for adequate bearing capacity and consistency with geotechnical report.*	*P*
	Inspect removal of unsuitable material and preparation of subgrade prior to placement of controlled fill.	*C*
2. Controlled Structural Fill	*Perform sieve tests (ASTM D422 & D1140) and modified Proctor tests (ASTM D1557) of each source of fill material.*	*C*
	Inspect placement, lift thickness and compaction of controlled fill.	
	Test density of each lift of fill by nuclear methods (ASTM D2922)	
	Verify extent and slope of fill placement.	

Note:
1. Special Inspection is not required during placement of controlled fill having a total depth of 12 inches or less.

Cast-in-Place Concrete

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Mix Design	*Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design. Submit proposed mix design of each class of concrete to Structural Engineer of Record and to inspection and testing firm for review prior to commencement of work.*	*P*
2. Material Certification	*Review for conformance to contract documents. Submit to Structural Engineer of Record for review.*	*P*
3. Anchor Rods	*Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidaton around anchors.*	*C*
4. Concrete Placement	*Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.*	*C*
5. Sampling and Testing of Concrete	*Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064). Three concrete test cylinders will be taken for every 75 or less cubic yards of each cIZ ish of concrete placed, or concrete placed on any given day. One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete represents.*	*C*
6. Curing and Protection	*Inspect curing, cold weather protection and hot weather protection procedures.*	*P*

Note: Special Inspection is not required for flatwork patios, driveways and sidewalks, on grade not shown on structural drawings.

Wood Construction

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Fabricator Certification/ Quality Control Procedures ☐ Fabricator Exempt	*Inspect shop fabrication and quality control procedures for wood truss plant.*	*P*
	Confirm certification of supplier.	
2. Material Grading	*Inspect grade stamps on structural lumber for compliance with the contract documents.*	*P*
3. Connections	*Verify connection hardware and its installation. Inspect bearing, nails, bolts, hangers or clips, or other devices are tight and otherwise properly installed per the contract documents.*	*C*
4. Framing and Details	*Inspect members for size and placement for conformance to the SER approval submittals and contract document. Review engineered joist shop drawings. Submit to SER for review.*	*P*
5. Diaphragms & Shearwalls	*Inspect thickness and grade of plywood (or OSB), blocking, placement, embedment, size of hold down anchors and the edge and field nailing of the plywood (or OSB) to the framing for conformance to the contract documents.*	*C*
6. Prefabricated Wood Trusses	*Inspect the fabrication of wood trusses. Bottom chord splices are prohibited in the middle third point of the truss.*	*P*
7. Permanent Truss Bracing	*Bridging and bracing installed per the approved truss shop drawings.*	*P*

Masonry

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Verify Compliance with the approved submittal	*Review submittals.*	*P*
2. Verification of F'M	*Review submittals.*	*P*
3. As masonry construction begins verify for complinace	*Verify.* *a. Portions of size prrepared mortar.* *b. Construction of mortar joints.* *c. location of connection.*	*P*
4. During construction	*Verify.* *a. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.* *b. preparation construction and portion of masonry during cold weather (temperature below 40° F) or hot weather (temperature above 90°)*	*P*
5. Observe preparation of mortar specimens and / or prisms	*Field review.* *a. Preparation of mortar cubes* *b. Preparation of test prisms*	*P*

Special Cases

Item	Scope	Monitoring: Periodic (P) Continuous (C)
Epoxy Anchors in Concrete or CMU	*Review anchors and product being used for conformance to contract documents. Observe installation for compliance to manufacturers specifications. Perform pull test to 125% of allowable design load per manufacturer specifications. (Minimum of 10% of total anchors, to include a minimum of one of each type, size or embedment.)*	*C*

CONCRETE MIX DESIGN REQUIREMENTS

MEMBER	EXPOSURE CATEGORY AND CLASSIFICATION F	S	W	C	SPECIFIED STRENGTH f'c, PSI	MAX W/CM RATIO	NOM MAX AGGREGATE IN	AIR CONTENT	SLUMP IN	TEMPERATURE LIMITS
FOOTINGS	F2	S0	W0	C1	4,500	0.45	3/4"	4% – 7%	4"	50° F 95°
SLAB-ON-GRADE	F0	S0	W0	C0	3,500	0.55	3/4"	0% – 3%	4"	50° F 95°
EXTERIOR SLABS	F3	S0	W1	C2	4,500	0.45	3/4"	4% – 7%	4"	50° F 95°

NOTES:

1. PROVIDE BATCH MIXING, TRANSPORTATION, PLACING AND CURING OF CONCRETE IN ACCORDANCE WITH RECOMMENDATIONS OF ACI 301 AND ACI 318. USE TYPE II OR TYPE V PORTLAND CEMENT UNLESS NOTED OTHERWISE. PROVIDE ADMIXTURES AND SPECIAL REQUIREMENTS AS SPECIFIED.
2. PROVIDE CONCRETE MIXES DESIGNED BY A QUALIFIED TESTING LABORATORY FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER.
3. NO WATER SHALL BE ADDED TO THE CONCRETE AT THE JOBSITE. IT SHALL BE THE RESPOSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE CONCRETE SUPPLIER TO ENSURE A PUMPABLE AND WORKABLE MIX WITHOUT THE ADDITION OF WATER AT THE JOBSITE. THE USE OF PLASTICIZERS, RETARDANTS, AND OTHER ADDITIVES SHALL BE AT THE OPTION OF THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER. FOLLOW THE RECOMMENDATIONS OF THE MANUFACTURER FOR THE PROPER USE OF ADDITIVES. THE USE OF CALCIUM CHLORIDE OR OTHER CHLORIDE BEARING SALTS SHALL NOT BE PERMITTED.
4. CONCRETE SLUMP TESTS SHALL BE MADE BEFORE AND AFTER THE ADDITION OF ADMIXTURES AND MAY BE TAKEN AT THE BACK OF THE TRUCK. CONCRETE FOR THE PREPARATION OF TEST CYLINDERS SHALL BE TAKEN FROM THE HOSE END FOR CONCRETE PLACED BY PUMP.

Structural Steel

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Material Certification	*Review for conformance to contract documents. Submit to Structural Engineer of Record for review.*	*P*
2. Anchor Rods and embedded plates	*Inspect size, positioning and embedment of anchor rods and embedded plates*	*C*
3. Welder Qualification	*Qualification per AWS D1.1, Subclause 6.1.4., D1.1M*	*P*
4. Weld Acceptance	*Welds meet visual acceptance per AWS D1.1/D1.1M /C*	*C*

SPECIAL INSPECTION:

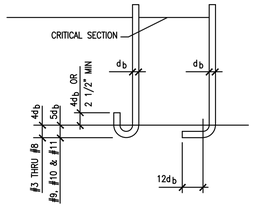
1. SPECIAL INSPECTION SHALL MEET THE REQUIREMENTS OF IBC SECTION 1704 AND TABLE LISTED ON THIS SHEET. SPECIAL INSPECTOR(S) SHALL BE HIRED BY THE OWNER TO PERFORM THE REQUIRED SPECIAL INSPECTIONS. THE NAMES OF PERSONS OR FIRMS WHO ARE TO PERFORM THE SPECIAL INSPECTIONS SHALL BE FORWARDED TO THE BUILDING OFFICIAL FOR APPROVAL. THE SPECIAL INSPECTOR(S) SHALL COMPLETE AND SUBMIT ALL FORMS REQUIRED BY THE CITY OF WESTFIELD, INDIANA
2. ITEMS LISTED IN THE SPECIAL INSPECTION SCHEDULE SHALL BE INSPECTED IN ACCORDANCE WITH MEC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY.
3. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT SPECIFICATIONS, AND THE SPECIFIC GENERAL NOTES SECTIONS.
4. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE REGISTERED DESIGN PROFESSIONAL, CONTRACTOR, AND BUILDING OFFICAL. ANY ITEMS WHICH FAIL TO COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
5. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND REGISTERED DESIGN PROFESSIONAL PRIOR TO COMPLETION OF THAT PHASE OF THE WORK. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL CONTRACTOR DESIGNED COMPONENTS
6. CONTINUOUS SPECIAL INSPECTION MEANS THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
7. PERIODIC SPECIAL INSPECTION MEANS THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECAIL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK (REFERENCE IBC SECTION 1702)
8. ALL WELDS SHALL BE VISUALLY INSPECTED IN ACCORDANCE WITH IBC SECTION 1705.2
9. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY OR BY USING ANOTHER APPROVED METHOD (IBC 1705.2.1) IN ACCORDANCE WITH IBC SECTION 1705.2
10. WELDING INSPECTIONS SHALL BE IN COMPLIANCE WITH AWS D1.1
11. INSPECTION OF PRE-FABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE THE MATERIAL USED IN THE CONSTRUTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PRE-FABRICATION IF THE APPROVED TESTING AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE
12. ANY CONSTRUCTION OR MATERIAL THAT HAVE FAILED INSPECTION SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT REQUIRED DURING PRE-FABRICATION IF THE APPROVED TESTING AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE
13. SPECIAL INSPECTION OF SOILS SHALL REFERENCE THE APPROVED SOILS REPORT TO DETERMINE COMPLIANCE
14. SLIP-CRITICAL CONNECTIONS MAY HAVE PERIODIC SPECIAL INSPECTION PROVIDED THAT THE TURN-OF-THE-NUT METHOD WITH MATCHMARKING TECHNIQUES ARE USED

DEFERRED SUBMITTAL:

1. THE FOLLOWING ITEMS ARE DEFERRED SUBMITTALS, PENDING APPROVAL OF THE BUILDING OFFICIAL:
   - A. RACKS INCLUDING LATERAL BRACING AND ANCHORAGE
   - B. CORRESPONDING JOIST PLANS AND PIECE SUBMITTALS.
   - C. DESIGN DRAWING FOR ATTACHMENT OF MECHANICAL AND ELECTRICAL COMPONENTS TO THE STRUCTURE AND SUPPORTED BY THE STRUCTURE.
   - D. CONCRETE DESIGN MIXES.
   - E. COLD FORMED METAL FRAMING SHOP DRAWINGS. CALCULATIONS MUST MAKE REFERENCE TO THE PLANS AND PIECE SUBMITTALS.
   - F. MASONRY REINFORCING SHOP DRAWINGS.
   - G. STRUCTURAL STEEL SHOP DRAWINGS. CALCULATIONS MUST MAKE REFERENCE TO THE PLANS AND PIECE SUBMITTALS.
   - H. CONCRETE REINFORCING SHOP DRAWINGS.
   - I. PRE-FABRICATED METAL PLATED WOOD TRUSS SHOP DRAWINGS.
   - J. PANELIZED WOOD FRAMING SHOP DRAWINGS CALCULATIONS MUST MAKE REF TO THE THE PLANS AND PIECE SUBMITTALS
2. DEFERRED SUBMITTALS MUST BE ACCOMPANIED BY CALCULATIONS SIGNED BY A REGISTERED INDIANA ENGINEER.
3. DEFERRED SUBMITTALS MUST BE SUBMITTED PRIOR TO INSTALLATION AND MUST BE APPROVED BY THE ENGINEER OF RECORD FOR GENERAL CONFORMANCE TO DESIGN ASSUMPTION INTENT.

CONCRETE REINFORCING SPLICE DEVELOPMENT LENGTH

	SPLICE LENGTHS (CLASS "B")				DEVELOPMENT LENGTH			
	ALL BARS EXCEPT TOP BARS		TOP BARS (HORIZ BARS WITH MORE THAN 12" OF CONC BELOW)		ALL BARS EXCEPT TOP BARS		TOP BARS (HORIZ BARS WITH MORE THAN 12" OF CONC BELOW)	
f'c (PSI)	INCHES		INCHES		INCHES		INCHES	
BAR SIZE	3000	4000	3000	4000	3000	4000	3000	4000
#3	16	16	21	18	13	12	16	14
#4	22	19	28	24	17	15	22	19
#5	27	23	35	30	21	18	27	23
#6	43	37	56	48	33	29	43	37
#7	63	54	81	71	48	42	63	54
#8	72	62	93	81	55	48	72	62
#9	81	70	105	91	62	54	81	70
#10	89	77	116	101	69	60	89	77
#11	98	85	128	111	76	66	98	85



HOOKS

NOTES:

1. DEVELOPMENT AND SPLICE LENGTHS SHOWN ARE BASED ON THE TABLE PROVIDED IN ACI 318-14 SECTION 25.4.2.2 AND APPLY UNLESS OTHERWISE NOTED ON PLANS AND DETAILS.
2. ALL LENGTHS AND COVERS ARE GIVEN IN INCHES UNLESS OTHERWISE NOTED.
3. TABULAR VALUES FOR DEVELOPMENT AND SPLICE LENGTHS ARE BASED ON NORMAL WEIGHT CONCRETE, GRADE 60 UNCOATED REINFORCING, CLEAR SPACING OF BARS EQUAL TO OR GREATER THAN 2 x BAR DIA OR 1 1/2", WHICHEVER IS GREATER, AND CLEAR COVER EQUAL TO OR GREATER THAN 1 x BAR DIAMETER OR 3/4", WHICHEVER IS GREATER.
4. TOP BARS ARE HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR. HORIZONTAL BARS IN WALLS ARE CONSIDERED AS TOP BARS. VERTICAL BARS MAY BE CONSIDERED AS OTHER BARS.
5. SPLICES SHALL NOT BE MADE AT POINTS OF MAXIMUM STRESS AS DETERMINED BY THE ENGINEER.

PANDA EXPRESS CHINESE KITCHEN

PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

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REVISIONS:

ISSUE DATE:

STATE PERMIT	06.07.21

DRAWN BY: D. GRIFFIN

PANDA PROJECT #: D8060
ARCH PROJECT #: JCDT20-0240

GARY MAEDA REGISTERED No.PE10810074 STATE OF INDIANA PROFESSIONAL ENGINEER
6-7-21

NORR ARCHITECTS ENGINEERS PLANNERS

PANDA EXPRESS
TRUE WARM & WELCOME
390 W Spring Mill Pointe Dr.
Westfield, IN 46074

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NOTES AND SPECIAL INSPECTIONS