

Statement of Structural Tests and Special Inspections

National Park Service (NPS) - Denver Service Center (DSC) | 6-29-21

Park: **Grand Canyon National Park**

Project Management Information System (PMIS) Number: **GRCA 257282**

Project Name: **Replace Wastewater Plant South Rim Village**

Structural Engineering Firm: **Jacobs Engineering**

This Statement of Structural Tests and Special Inspections is being submitted as required by Chapter 17 of the **2024 International Building Code** (IBC-24). It includes the following:

1. Seismic requirements
2. Wind requirements
3. Qualification Requirements for Inspectors and Testing Technicians
4. Listing of Required Structural Tests and Special Inspections

The Construction Contractor's Quality Control Supervisor will provide copies of all special inspection reports and associated documentation to the Contracting Officer (CO). The Construction Contractor will be required to correct all deficiencies discovered in the Special Inspection and Structural Testing program.

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(Type or print name)

Signature: _____ Date: _____



Stamped by Professional Engineer (PE) or Structural Engineer (SE)

Seismic and Wind Requirements

Seismic Requirements, IBC-24 Section 1704.3

Description of seismic-force-resisting system and designated seismic systems subject to special inspections:

Special inspections requirements for seismic resistance in accordance with IBC Section 1704.3 are not applicable to this Project:		
Facility	Seismic Force Resisting System	Subject to Special Inspections
10 Administration Building	Intermediate reinforced masonry shear walls	No (IBC Section 1705.13 Exception 2)
12 Maintenance Building	Intermediate reinforced masonry shear walls	No (IBC Section 1705.13 Exception 2)
12 Maintenance Canopy	Pre-Engineered Metal Building System (by others – deferred submittal)	Deferred
18 Receiving Station	N/A: Slab-on-grade only and buried structure	No
20 Headworks Building	Intermediate reinforced masonry shear walls	No (IBC Section 1705.13 Exception 2)
22 Odor Control	N/A: Slab-on-grade to support non-building equipment	No
25 Process Tanks	N/A: Buried cast-in-place concrete water-holding basin	No
32 Process Building	Intermediate reinforced masonry shear walls	No (IBC Section 1705.13 Exception 2)
70 Reclaimed Water Tank		No
80 Digester Facility	Mixed Use Facility: Cast-in-place concrete water holding basins with occupied space between tanks - intermediate reinforced concrete shear walls	No (IBC Section 1705.13 Exception 2)
85 Drying Beds	N/A: Non-building, slab-on-grade with short retaining walls	No
87 Compost Facility	Cast-in-place concrete Non-occupied "U" Occupancy structure with steel framed open canopy	No

Wind Requirements, IBC-24 Section 1704.3

Description of wind-force-resisting system and designated wind systems subject to special inspections:

Special inspections requirements for wind resistance in accordance with IBC Section 1704.3 are not applicable to this Project.

NOTE: South Rim wind speed = 107 mph. Inspection required only for buildings and structures where wind speed is 140 mph or greater, see IBC Section 1705.12.

Listing of Required Structural Tests and Special Inspections

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
Steel Construction (IBC-24 Section 1705.2; American Institute of Steel Construction: AISC 360-16 Chapter N, AISC 341 16 Chapter J)					
	Prior to Welding (AISC 360-16 Table N5.4-1)				
X	1. Welder qualification records and continuity records.	AWS-CWI	X		
X	2. Welding procedure specifications (WPS) available.	AWS-CWI	X		
X	3. Manufacturer certifications for welding consumables available.	AWS-CWI	X		
X	4. Material identification (type/grade).	AWS-CWI		X	10%
X	5. Welder identification system.	AWS-CWI		X	10%
X	6. Fit-up of groove welds (including joint geometry):				
X	a. Joint preparation.	AWS-CWI	X		
X	b. Dimensions (alignment, root opening, root face, bevel).	AWS-CWI	X		
X	c. Cleanliness (condition of steel surfaces).	AWS-CWI	X		
X	d. Tacking (tack weld quality and location).	AWS-CWI	X		
X	e. Backing type and fit (if applicable).	AWS-CWI	X		
X	7. Fit-up of CJP (complete joist penetration) groove welds of HSS (hollow structural sections) T-, Y- and K-joints without backing (including joint geometry):				
X	a. Joint preparation.	AWS-CWI	X		
X	b. Dimensions (alignment, root opening, root face, bevel).	AWS-CWI	X		
X	c. Cleanliness (condition of steel surfaces).	AWS-CWI	X		
X	d. Tacking (tack weld quality and location).	AWS-CWI	X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
X	8. Configuration and finish of access holes.	AWS-CWI	X		
X	9. Fit-up of fillet welds:				
X	a. Dimensions (alignment, gaps at root).	AWS-CWI		X	10%
X	b. Cleanliness (condition of steel surfaces).	AWS-CWI		X	10%
X	c. Tacking (tack weld quality and location).	AWS-CWI		X	10%
X	10. Check welding equipment.	AWS-CWI		X	10%
X	During Welding (AISC 360-16 Table N5.4-2)				
X	1. Control and handling of welding consumables:	AWS-CWI			
X	a. Packaging.	AWS-CWI		X	10%
X	b. Exposure control.	AWS-CWI		X	10%
X	2. No welding over cracked tack welds.	AWS-CWI		X	10%
X	3. Environmental conditions:	AWS-CWI			
X	a. Wind speed within limits.	AWS-CWI		X	10%
X	b. Precipitation and temperature.	AWS-CWI		X	10%
X	4. WPS followed:				
X	a. Settings on welding equipment.	AWS-CWI		X	10%
X	b. Travel speed.	AWS-CWI		X	10%
X	c. Selected welding materials.	AWS-CWI		X	10%
X	d. Shielding gas type/flow rate.	AWS-CWI		X	10%
X	e. Preheat applied.	AWS-CWI		X	10%
X	f. Interpass temperature maintained (minimum/maximum).	AWS-CWI		X	10%
X	g. Proper position (F, V, H, OH).	AWS-CWI		X	10%

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
X	h. Intermix of filler metals avoided unless approved (reference: AISC 341-10 Table J6.2).	AWS-CWI		X	10%
X	5. Use of qualified welders.	AWS-CWI	X		
X	6. Welding techniques:				
X	a. Interpass and final cleaning.	AWS-CWI		X	10%
X	b. Each pass within profile limitations.	AWS-CWI		X	10%
X	c. Each pass meets quality requirements.	AWS-CWI		X	10%
X	7. Placement and installation of headed stud anchors.	AWS-CWI	X		
X	After Welding (AISC 360-16 Table N5.4-3)				
X	1. Welds cleaned.	AWS-CWI		X	10%
X	2. Size, length, and location of welds.	AWS-CWI	X		
X	3. Welds meet visual acceptance criteria:				
X	a. Crack prohibition.	AWS-CWI	X		
X	b. Weld/base-metal fusion.	AWS-CWI	X		
X	c. Crater cross-section.	AWS-CWI	X		
X	d. Weld profiles.	AWS-CWI	X		
X	e. Weld size.	AWS-CWI	X		
X	f. Undercut.	AWS-CWI	X		
X	g. Porosity.	AWS-CWI	X		
X	4. Arc strikes.	AWS-CWI	X		
X	5. k-area.	AWS-CWI	X		
	6. Weld access holes in rolled heavy shapes and built-up heavy shapes.	AWS-CWI	X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
X	7. Backing removed and weld tabs removed (if required).	AWS-CWI	X		
X	8. Repair activities.	AWS-CWI	X		
X	9. Document acceptance or rejection of welded joint or member.	AWS-CWI	X		
X	10. No prohibited welds have been added without the approval of the EOR (Engineer of Record).	AWS-CWI	X		
	11. Placement of reinforcing or contouring fillet welds (if required) (reference: AISC 341-16).	AWS-CWI	X		
X	Nondestructive Testing (AISC 360-16 Section N5 and AISC 341-16 Section J6)				
	1. Risk Category II Structures - Perform Ultrasonic Testing on 10% of CJP groove welds in butt, T--and corner joints subject to transversely applied tension loading, in materials 5/16 inch thick or greater.			X	
X	2. Risk Category III or IV Structures - Perform Ultrasonic Testing on all CJP groove welds subject to transversely applied tension loading in butt, T- and corner joints, in materials 5/16 inch thick or greater.	NDTT LEVEL II OR III	X		
	3. Access Holes – Perform Magnetic Particle Testing or Liquid Penetrant Testing when the flange thickness exceeds 2 inches for rolled shapes, or when the web thickness exceeds 2 inches for built-up shapes.		X		
X	4. Welded Joints Subject to Fatigue.		X		
	Nondestructive Testing (AISC 341-16 Section J6)				
	Column Splice and Column to Base Plate PJP Groove Weld (AISC 341-16 Section J6 2b).				
	1. Perform Ultrasonic Testing on 100% of PJP (partial-joint-penetration) groove welds in column splices and column to base plate welds.		X		
	2. CJP Groove weld.		X		
	3. Lamellar tearing.		X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	4. Beam cope and access hole.		X		
	5. Reduced beam section repair.		X		
	6. Weld tab removal.		X		
X	Prior to Bolting (AISC 360-16 Table N5.6-1)				
	These inspections are not required for snug-tight joints.				
X	1. Manufacturer's certifications available for fastener materials.	ICC-SSBSI	X		
X	2. Fasteners marked in accordance with ASTM requirements.	ICC-SSBSI		X	10%
X	3. Correct fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane).	ICC-SSBSI		X	10%
X	4. Correct bolting procedure selected for joint detail.	ICC-SSBSI		X	10%
X	5. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.	ICC-SSBSI		X	10%
X	6. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.	ICC-SSBSI		X	10%
X	7. Protected storage provided for bolts, nuts, washers and other fastener components.	ICC-SSBSI		X	10%
X	During Bolting (AISC 360-16 Table N5.6-2)				
X	These inspections are not required for snug-tight joints.				
X	These inspections are not required for pretensioned joints and slip-critical joints, when the installer is using the turn-of-nut method with matchmarking techniques, the direct-tension-indicator method, or the twist-off-type tension control bolt method.				
X	1. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.	ICC-SSBSI		X	10%

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
X	2. Joint brought to the snug-tight condition prior to the pretensioning operation.	ICC-SSBSI		X	10%
X	3. Fastener component not turned by the wrench prevented from rotating.	ICC-SSBSI		X	10%
X	4. Fasteners are pretensioned in accordance with the RCSC (Resource Council on Structural Connections) Specification, progressing systematically from the most rigid point toward the free edges.	ICC-SSBSI		X	10%
X	After Bolting (AISC 360-16 Table N5.6-2)				
X	Document acceptance or rejection of bolted connections.	ICC-SSBSI	X		
X	Other Inspection Tasks (AISC 360-16 Section N5.7)				
X	1. Verify compliance of fabricated steel with the details shown on the approved Shop Drawings.	ICC-SSBSI		X	10%
X	2. Verify compliance of the erected steel frame with the details shown on the approved erection drawings, including braces, stiffeners, member locations and joint details.	ICC-SSBSI		X	10%
X	3. Anchor rods and other embedments support structural steel:				
X	a. Verify the diameter, grade, type and length of the anchor rod or embedded item.	ICC-SSBSI		X	10%
X	b. Verify the extent or depth of embedment into the concrete.	ICC-SSBSI		X	10%
	4. RBS (reduce beam section) requirements, if applicable (AISC 341-16):				
	a. Contour and finish.			X	10%
	b. Dimensional tolerances.			X	10%
	5. Protected zone - no holes and unapproved attachments made by fabricator or erector, as applicable. (AISC 341-16).			X	10%

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	6. H-piles - Protected zone - no holes and unapproved attachments made by the responsible contractor, as applicable. (AISC 341-16).			X	10%
X	Cold-formed Steel Deck (IBC-24 1705.2.2)				
X	1. Special inspections in accordance with QA/QC-2017 Standard for Quality control (QC) and Quality assurance (QA) for Installation of Steel Deck.				
	Open-Web steel Joists and Joist Girders (IBC-24 Table 1705.2.3)				
	1. Installation of open-web steel joists and joist girders:				
	a. End connections - welding or bolted.			X	10%
	b. Bridging - horizontal or diagonal:			X	10%
	1. Standard bridging.			X	10%
	2. Bridging that differs from the SJI (Steel Joist Institute) specifications listed in Section 2207.1.			X	10%
	Inspection of Composite Structures Prior to Concrete Placement (AISC 341-16 Table J9.1)				
	1. Material identification of reinforcing steel (Type/Grade).			X	10%
	2. Determination of carbon equivalent for reinforcing steel other than ASTM A706.			X	10%
	3. Proper reinforcing steel size, spacing and orientation.			X	10%
	4. Reinforcing steel has not been rebent in the field.			X	10%
	5. Reinforcing steel has been tied and supported as required.			X	10%
	6. Required reinforcing steel clearances have been provided.			X	10%
	7. Composite member has required size.			X	10%

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
Inspection of Composite Structures During Concrete Placement (AISC 341-16 Table J9.2)					
	1. Concrete: Material identification (mix design, compressive strength, maximum large aggregate size, maximum slump).			X	10%
	2. Limits on water added at the truck or pump.			X	10%
	3. Proper placement techniques to limit segregation.			X	10%
Inspection of Composite Structures During Concrete Placement (AISC 341-16 Table J9.2)					
	1. Achievement of minimum specified concrete compressive.			X	10%
Cold-formed Steel Trusses Spanning 60 feet or Greater (IBC-24 Section 1705.2.4)					
	1. Verify temporary installation restraint/bracing installed in accordance with the approved Shop Drawings.			X	10%
	2. Verify permanent individual truss member restraint/bracing installed in accordance with the approved Shop Drawings.			X	10%
Concrete Construction (IBC-24 Section 1705.3)					
X	1. Inspect reinforcing steel, including prestressing tendons, and placement.	ACI-CCSI		X	10%
	2. Inspection of reinforcing steel welding:	Welding reinforcing not permitted			
	a. Verify weldability of reinforcing bars other than ASTM A706.		X		
	b. Inspect single pass fillet welds, maximum 5/16 inch.			X	10%
	c. Inspect all other welds.			X	10%
X	3. Inspection of anchors cast in concrete.	ACI-CCSI		X	10%

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
X	4. Inspection of anchors post-installed in hardened concrete members:	ACI-PICAll			50%, Overhead installations shall require continuous inspection
X	a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension load.	ACI-CCSI	X		
X	b. Mechanical anchors and adhesive anchors not defined in 4 a.	ACI-CCSI		X	As required by produce ICC ESR Report
X	5. Verify use of approved design mix.	ACI-CCSI		X	25%
X	6. Prior to placement fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	ACI-FTT	X		
X	7. Inspect concrete and shotcrete placement for proper application techniques.	ACI-CCSI	X		
X	8. Inspect for maintenance of specified curing temperature and techniques.	ACI-CCSI		X	50%
	9. Inspection of prestressed concrete:				
	a. Application of prestressing forces.		X		
	b. Grouting of bonded prestressing tendons in the seismic-force-resisting system.		X		
	10. Erection of precast structural members.			X	
	11. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category C, D, E, or F, inspect such connections and reinforcement in the field for:				
	a. Installation of the embedded parts.		X		
	b. Completion of the continuity of reinforcement across joints.		X		
	c. Completion of connections in the field.		X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	12. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5 (American Concrete Institute).			X	
	13. Verification of in-situ concrete strength, prior to removal of shores and forms from beams and structural slabs.	ACI-CCSI	X		
X	14. Inspection formwork for shape, location and dimensions of the concrete member being formed.	ACI-CCSI		X	Prior to every concrete placement
Masonry Construction (IBC-24 Section 1705.4)					
X	1. Inspect masonry construction in accordance with IBC-24 Section 1705.4 and TMS 602-13 (The Masonry Society)/ACI 530.1-13 Article 1.6.				
Level A Quality Assurance					
	Tests: None.				
	Inspection: Verify compliance with the approved submittal and Project Specifications.			X	
X Level B Quality Assurance					
	Tests:				
X	1. Verify slump flow and Visual Stability Index (VSI) as delivered to the Project Site in accordance with TMS 602-13/ACI 530.1-13 Specification Article 1.5B.1.b.3 for self-consolidating grout.	ICC-SMSI	X		
X	2. Verify f'_m and f'_{aac} in accordance with TMS 602-13/ACI 530.1-13 Specification Article 1.4B prior to construction, except where specifically exempted.	ICC-SMSI	X		
	Inspection:				
X	1. Verify compliance with the approved submittals and Project Specifications.	ICC-SMSI		X	10%
X	2. At the start of masonry construction, verify:	ICC-SMSI			

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
X	a. Proportions of site-prepared mortar.	ICC-SMSI		X	10%
X	b. Construction of mortar joints.	ICC-SMSI		X	10%
	c. Grade and size of prestressing tendons and anchorages.				
X	d. Location of reinforcement, connectors, prestressing tendons and anchorages.	ICC-SMSI		X	10%
	e. Prestressing technique.			X	10%
	f. Properties of thin-bed mortar for AAC (autoclaved aerated concrete) masonry. (Continuous inspection is required for the first 5,000 square feet of AAC masonry. Periodic inspection is required after the first 5,000 square feet of AAC masonry.)			X	
X	3. Prior to grouting, verify:				
X	a. Grout space is clean.	ICC-SMSI	X		10%
X	b. Grade, type and size of reinforcement and anchor bolts, and anchorages.	ICC-SMSI		X	10%
X	c. Placement of reinforcing and connectors, and anchorages.	ICC-SMSI	X		10%
	d. Proportions of site-prepared grout and prestressing grout for bonded tendons.	ICC-SMSI		X	10%
X	e. Construction of mortar joints.	ICC-SMSI		X	10%
X	4. During masonry construction, verify:				
X	a. Size and location of structural members.	ICC-SMSI		X	10%
X	b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	ICC-SMSI		X	10%
	c. Welding of reinforcement.	Welding reinforcement not permitted	X		
X	d. Preparation, construction and protection of masonry during cold weather (temperature	ICC-SMSI		X	

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	below 40 degrees F) or hot weather (temperature above 90 degrees F).				
	e. Application and measurement of prestressing force.		X		
	f. Placement of grout and prestressing grout for bonded tendons is in compliance.		X		
	g. Placement of AAC masonry units and construction of thin-bed mortar joints. (Continuous inspection is required for the first 5000 square feet of AAC masonry. Periodic inspection is required after the first 5,000 square feet of AAC masonry.)		X	X	10%
X	5. Observe preparation of grout specimens, mortar specimens and/or prisms.	ICC-SMSI	X		
	Level C Quality Assurance				
	Tests:				
	1. Verify f'_m and f'_{aac} in accordance with TMS 602-13/ACI 530.1-13/ASCE 6-13 Specification Article 1.4B prior to construction, and for every 5,000 square feet during construction.				
	2. Verify proportions of materials in premixed or pre-blended mortar, prestressing grout, and grout other than self-consolidating grout as delivered to the Project Site.				
	3. Verify slump flow and Visual Stability Index (VSI) as delivered to the Project Site in accordance with TMS 602-13/ACI 530.1-13/ASCE 6-13 Specification Article 1.5B.1.b.3 for self-consolidating grout.				
	Inspection:				
	1. Verify compliance with the approved submittals and Project Specifications.			X	
	2. Verify:				
	a. Proportions of site-prepared mortar, grout and prestressing grout for bonded tendons.			X	

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	b. Grade, type and size of reinforcement and anchor bolts, and prestressing tendons and anchorages.			X	
	c. Placement of masonry units and construction of mortar joints.			X	
	d. Placement of reinforcement, connectors and prestressing tendons and anchorages.		X		
	e. Grout space prior to grouting.		X		
	f. Placement of grout and prestressing grout for bonded tendons.		X		
	g. Size and location of structural elements.			X	
	h. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.		X		
	i. Welding of reinforcement.		X		
	j. Preparation, construction and protection of masonry during cold weather (temperature below 40 degrees F) or hot weather (temperature above 90 degrees F).			X	
	k. Application and measurement of prestressing force.		X		
	l. Placement of AAC masonry units and construction of thin-bed mortar joints.		X		
	m. Properties of thin-bed mortar for AAC masonry.		X		
	3. Observe preparation of grout specimens, mortar specimens and/or prisms.		X		
Wood Construction (IBC-24 Section 1705.5)					
X	1. Inspect prefabricated wood structural elements in accordance with Section 1704.2.5.			X	20%
	2. High Load Diaphragms:				
	a. Verify sheathing grade and thickness.			X	

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	b. Verify nominal size of framing members at adjoining panel edges.			X	
	c. Verify nail or staple diameter and length.			X	
	d. Verify number of fastener lines.			X	
	e. Verify spacing between fasteners in each line and at panel edges.			X	
	3. Shearwalls:				
	a. Verify sheathing grade and thickness.			X	
	b. Verify nominal size of framing members at adjoining panel edges.			X	
	c. Verify nail or staple diameter and length.			X	
	d. Verify number of fastener lines.			X	
	e. Verify spacing between fasteners in each line and at panel edges.			X	
	f. Location and size of holdowns.			X	
X	4. Verify nailing, bolting, anchoring, and fastening of:				
X	a. Drag struts and collectors.			X	10%
X	b. Braces.			X	10%
X	c. Hold-downs.			X	10%
	5. Metal-plate-connected wood trusses spanning 60 feet or greater:				
	a. Verify temporary installation restraint/bracing installed in accordance with the approved shop drawings.			X	
	b. Verify permanent individual truss member restraint/bracing installed in accordance with the approved Shop Drawings.			X	

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
Soils (IBC-24 Section 1705.6)					
X	1. Verify materials below shallow foundations are adequate to achieve the required bearing capacity.	ICC-SI		X	20%
X	2. Verify excavations are extended to proper depth and have reached proper material.	ICC-SI		X	20%
X	3. Perform classification and testing of compacted fill materials.	ICC-SI		X	See Section 31 23 23 Fill and Backfill
X	4. During fill placement, verify use of proper materials and procedure in accordance with the Section 31 23 23 Fill and Backfill and provisions of the approved geotechnical report. Verify densities and lift thicknesses during placement and compaction of compacted fill.	ICC-SI	X		
X	5. Prior to placement of compacted fill, inspect subgrade and verify that Site has been prepared properly.	ICC-SI	X		
Driven Deep Foundation Elements (IBC-24 Section 1705.7)					
	1. Verify element materials, sizes, and lengths.		X		
	2. Determine capacities of test elements and conduct additional load tests when required. Refer to Project Specifications.		X		
	3. Inspect driving operations and maintain complete and accurate records for each element.		X		
	4. Verify element locations and plumbness:		X		
	a. Verify type and size of hammer.		X		
	b. Record number of blows per foot of penetration.		X		
	c. Determine required penetration to achieve specified capacity.		X		
	d. Record pile tip and butt elevations.		X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	e. Document any damage to any foundation element.		X		
	5. For steel piling, perform additional inspection in accordance with Section 1705.2 and AISC 341-16, Table J10.1.				
	6. For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1705.3.				
	7. For specialty elements, perform additional inspections as required in the Project Specifications.				
Cast-in-Place Deep Foundation (IBC-24 Section 1705.8)					
	1. Inspect drilling operations and maintain complete and accurate records for each element.		X		
	2. Verify element locations and plumbness:		X		
	a. Verify element diameter.		X		
	b. Verify bell diameter (if applicable).		X		
	c. Verify element lengths.		X		
	d. Verify embedment depth into bedrock (if applicable).		X		
	e. Verify adequate end-bearing strata capacity.		X		
	f. Record concrete or grout volumes.		X		
	3. For concrete elements, perform additional inspections in accordance with Section 1705.3.				
Helical Piles (IBC-24 Section 1705.10)					
	1. Verify pile locations:		X		
	a. Verify installation equipment used.		X		
	b. Verify pile dimensions.		X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	c. Verify tip elevations.		X		
	d. Verify final depth.		X		
	e. Verify final installation torque.		X		
	f. Other data as required by the Project Specifications.		X		
Fabricated Items (IBC-24 Section 1705.11)					
X	1. Inspect fabricated items in accordance with Section 1704.2.5.	ICC-SSBSI	X		
Wind Resistance (IBC-24 Section 1705.12)					
	1. Provide inspections when required by Section 1705.12.				
Seismic Resistance (IBC-24 Section 1705.13)					
	1. Provide inspections when required by Section 1705.13.				
Testing and Qualification for Seismic Resistance (IBC-24 Section 1705.14)					
	1. Test and qualify seismic resistance in accordance with IBC-24 Section 1705.14 and the Project Specifications.				
Sprayed Fire-Resistant Materials (IBC-24 Section 1705.15)					
	1. Inspect sprayed fire-resistant materials in accordance with IBC-24 Section 1705.15 and the Project Specifications.				
Mastic and Intumescent Fire-Resistant Coatings (IBC-24 Section 1705.16)					
	1. Perform inspections in accordance with AWCI 12-B (Association of the Wall and Ceiling Industry) and IBC-24 Section 1705.16.			X	

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
Exterior Insulation and Finish Systems (EIFS) (IBC-24 Section 1705.17)					
	1. Perform inspections in accordance with Project Specifications and IBC-24 Section 1705.17.			X	
Fire-Resistant Penetrations and Joints (IBC-24 Section 1705.18)					
	1. Perform inspections in accordance with project specifications and IBC-24 Section 1705.18.			X	
Smoke Control (IBC-24 Section 1705.19)					
	1. Perform testing in accordance with project specifications and IBC-24 Section 1705.19.				
Sealing of Mass Timber (IBC-24 Section 1705.20)					
	1. Perform testing in accordance with Project Specifications and IBC-24 Section 1705.20.				

