

# UNIVERSITY OF UTAH PROJECT DESIGN & CONSTRUCTION CODE ANALYSIS FORM - 2021 INTERNATIONAL BUILDING CODE

BUILDING IDENTIFICATION:	
CODE ANALYSIS COMPLETION DATE:	

#### PART 1

APPLICABLE CODE	YEAR	APPLICABLE CODE	YEAR
International Building Code (IBC)	2021	ADA (ADAAG)	2010
International Existing Building Code	2021	ICC/ANSI A117.1	2017
International Fire Code (IFC)	2021	NFPA 101 Life Safety Code (State)	2018
International Mechanical Code (IMC)	2021	NFPA 101 Life Safety Code (Federal)	2015
International Energy Conservation Code (IECC)	2021	NFPA 99 Health Care Facilities Code	2018
International Plumbing Code (IBC)	2021	FGI Health Care Guidelines	2018
National Electric Code	2020		

#### PART 2 PLEASE NOTE - 2021 IBC INCLUDES A MODIFIED ALLOWABLE AREA TABLE - SEE TABLE 506.2

Occupancy Group (Chapter 3)			Area (506)*5				Height (T504.3) *6		Stories (T504.4) *6		(508)	(508.4.2)	
Floor	Name	Group	(T601) Const. Type (*1)	Tabular NS (T506.2)	Tabular SM or S1 (T506.2)	Aa (*2)	Actual ft <sup>2</sup>	Tabular T504.3 ft	Actual ft	Tabular (T504.4)	Actual	Mixed Use Type (*3)	*4 Area Ratio
Raseme	ent - Floor Total:												
Buoome	Tion rotal.												
1st - Flo	oor Total:												
2nd Flo	or Total:												
3rd Floo	or Total:												
	Building Total (*2)												

- (\*1) Construction Type shall be the most restrictive occupancy requirement for the entire building (508.3 & 508.4)
- (\*2) Area- Total building Area dependent on Single or Mixed Occupancy Building (506.2.1 through 506.2.4) & Frontage Increase (506.3)
- (\*3) Mixed Use IAO=Incidental Accessory Occupancy / AO=Accessory Occupancy / SO=Separated Occupancies / NSO=Nonseparated Occupancies: qsf= gross square feet; nsf= net square feet; (E) = Existing
- (\*4) IBC Section 508.4.2: In each story, the building area shall be such that the sum of the ratios of the actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed 1.
- (\*5) 506.2.4 Mixed-occupancy, multistory buildings more than 3 stories above grade plan: Total building area shall be such that the aggregate sum of the ratios of the actual area of each story divided by the allowable area of such stories shall not exceed three for NS and four for S.
- (\*6) IBC 504.2 Mixed occupancy: In a building containing mixed occupancies in accordance with Section 508, no individual occupancy shall exceed the height and number of story limits specified in this section for the applicable occupancies.

#### PART 3 - ALLOWABLE AREA DETERMINATION (506.2.1 through 506.2.4 & 506.3)

**FRONTAGE INCREASE:** If = [F/P- 0.25]W/30 = (Provide Analysis)

SINGLE-OCCUPANCY, ONE STORY BUILDINGS (506.2.1):

Allowable Area:  $Aa = At + (NS \times If) = (Provide Analysis)$ 

Level X, X Occupancy:  $Aa = At + (NS \times If) = SF$ 

MIXED-OCCUPANCY, ONE-STORY BUILDINGS (506.2.2):

Allowable Area: Aa = At + (NS $\times$  If) and provisions of Section 508.1 = (Provide Analysis)

Level X, X Occupancy:  $Aa = At + (NS \times If) = SF$ 

SINGLE-OCCUPANCY, MULTISTORY BUILDINGS (506.2.3):

Allowable Area:  $Aa = [At + (NS \times If)] \times Sa = (Provide Analysis)$ 

Level X, X Occupancy: Aa =  $[At + (NS \times If)] \times Sa = SF$ 

Sa = Actual number of building stories above grade plane, not to exceed three. For buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2, use the actual number of building stories above grade plane, not to exceed four.

#### MIXED-OCCUPANCY, MULTISTORY BUILDINGS (506.2.4):

Allowable Area:  $Aa = [At + (NS \times If)] = (Provide Analysis)$ 

Level X, X Occupancy: Aa =  $[Af + (NS \times If)] = SF$ 

>3 Story Bldgs: Total Bldg Area = Aggregate SUM of the Ratios (Actual Floor Area / Allowable Floor Area)

= <3 for NS and <4 for S:

Aggregate Sum of the Ratios: = X

UNLIMITED AREA (507) =

SPECIAL PROVISIONS (510) =

## PART 4 - GRADE PLANE ELEVATION & HEIGHT & STORIES (504)

<b>BUILDING WALL</b>	AVERAGE ELEVATION	GRADE PLANE ELEVATION
NORTH		
SOUTH		
EAST		
WEST		
	TOTAL BUILDING G.P.E.	

STORY	FINISHED FLOOR ELEVATION	STORY ABOVE G.P.E.	HEIGHT
BASEMENT			
1 <sup>ST</sup> FLOOR			
2 <sup>ND</sup> FLOOR			
3 <sup>RD</sup> FLOOR			
To	OTAL BUILDING	X-STORIES	X'-X"

### PART 5 - AUTOMATIC FIRE SPRINKLER (903 & T903.2.11.6)

ITEM	REFERENCE	COMMENTS
Required		

## PART 6 - OCCUPANCY SEPARATIONS (T508.4)

OCCUPANCY/OCCUPANCY	RATING	IBC/UL DESIGN #

## PART 7 - OTHER BUILDING ELEMENTS (T601 and T602)

ELEMENT	MATERIAL	RATING	IBC/UL DESIGN #
Interior Bearing Wall			
Interior Non-Bearing Wall			
Structural Frame			
Exterior Structural Frame			
Shaft Enclosure a,b			
Floor / Ceiling Assembly			
Roof / Ceiling Assembly			
Vertical Exit Enclosure a,b			

a. Fire-resistance rating not less than the floor assembly penetrated (713.4) (1023.2).

b. 2 hours where connecting four stories or more and 1 hour where connecting less than four stories, including basements. (713.4) (1023.2).

# PART 8 - EXTERIOR WALL & OPENING PROTECTION (T705.8)

WALL LOCATION	PROTECTED	UNPROTECTED	PARAPET REQ'D (705.11)
NORTH			
SOUTH			
EAST			
WEST			

# PART 9 - EXIT REQUIREMENTS

FLOOR LEVEL	ROOM OCCUPANCY GROUPS	AREA	OCCUPANT LOAD FACTOR (T1004.5)	# OF OCCUPANTS (1004)	# OF EXITS (1006)	REQ'D EGRESS WIDTH (1005)	REQ'D STAIR WIDTH (1005.3)	REQ'D AISLE WIDTH (1018)	COMMON PATH OF TRAVEL DISTANCE (T1006.2.1) (Worst case)	TOTAL TRAVEL DISTANCE (1017) (Worst case)
Level A To	otal:									
Level 1 To	ntal:									
2010. 1 1										
Level 2 To	otal:									
Laval C.T.										
Level 3 To										
Building T	otal:									

# PART 10 - ADDITIONAL REQUIREMENTS

ACCESSIBLE MEANS OF EGRESS (1009):	
ACCESSIBLE ROUTE (1104 & INTERNATIONAL EXISTING	
BUILDING CODE):	
SPECIAL OCCUPANCY REQUIREMENTS (CHAPTER 4):	

### **PLUMBING FIXTURES (T 2902.1)**

TOTAL NUMBER OF REQUIRED FIXTURES:											
	WATER CLOSETS					L	LAVATORIES			DRINKING FOUNTAINS	
OCCUPANCY	OCC. LOAD	RATIO	MEN	Urinals	RATIO	WOMEN	RATIO	MEN	WOMEN	RATIO	TOTAL
A3		1 PER	0.0	0.0	1 PER 65	0.0	1 PER	0.0	0.0	1 PER	0
		125					200			1000	
В		1 PER 25	0.0	0.0	1 PER 25	0.0	1 PER 40	0.0	0.0	1 PER	0
		<50			<50		<80				
		1 PER 50	0.0	0.0	1 PER 50	0.0	1 PER	0.0	0.0		
		>50			>50		80 >80			100	
E		1 PER 50	0.0	0.0	1 PER 50	0.0	1 PER 50	0.0	0.0	1 PER	0
										100	
I2 - Hosp,		1 PER			1 PER		1 PER			1 PER	0
Ambul		ROOM			ROOM		ROOM			100	
I2 - Staff		1 PER 25	0.0	0.0	1 PER 25	0.0	1 PER 35	0.0	0.0	1 PER	0
										100	
I2 - Visitors		1 PER 75	0.0	0.0	1 PER 75	0.0	1 PER	0.0	0.0	1 PER	0
							100			500	
S1, S2		1 PER	0.0	0.0	1 PER	0.0	1 PER	0.0	0.0	1 PER	0
•		100			100		100			1000	
TOTAL REQU	IIRED		0	0		0		0	0		0
TOTAL PROV	IDED		0	0		0		0	0		0

### PART 11 - BUILDING PERFORMANCE PARAMETERS:

Include a summary of building performance parameters (design temperatures for spaces, humidity control setpoints, special ventilation requirements, lighting levels for spaces, etc.) with the Code Summary. Also, include structural calculations and energy calculations.

# PART 12 - DEFERRED SUBMITTALS, NONSTRUCTURAL COMPONENTS CHECKLIST, & SPECIAL INSPECTIONS LIST:

Provide the following information in the Code Analysis, deleting non-applicable sections.

## **LIST OF DEFERRED SUBMITTALS**

ITEM	DRAWING REFERENCE	SPECIFICATION REFERENCE
FIRE SPRINKLER & ALARM DRAWINGS		
SEISMIC RESTRAINT DESIGNS OF NON- STRUCTURAL COMPONENTS FOR ALL SYSTEMS LISTED		
STOTEWS EIGTED		

#### **GUIDELINES FOR SEISMIC RESTRAINT OF NONSTRUCTURAL COMPONENTS & DEFERRED SUBMITTALS**

#### 1. General Comments:

- a) These guidelines shall apply to all nonstructural components as required by the IBC 1613.1. Nonstructural components consist of architectural, mechanical and electrical components that are permanently attached to the primary structure.
- b) When a change in occupancy occurs that causes an existing building to be reclassified to a higher Occupancy Category per IBC Table 1604.5, all existing nonstructural components shall be confirmed to meet the seismic restraint requirements of Chapter 13 in ASCE 7.
- c) These guidelines define the minimum submittal requirements to obtain University of Utah approval for seismic restraint of nonstructural components. The guidelines noted herein shall not cancel or set aside more conservative requirements specified by the design professional in responsible charge.
- d) All references made to the IBC or ASCE 7 latest editions adopted by the State of Utah.

#### 2. Checklist Requirements:

- a) All University of Utah projects shall have the "Nonstructural Component Checklist" (attached below) clearly shown on the front of the construction plans.
- b) Each item within the checklists shall have the appropriate box checked and comments shall be provided noting the particular component(s) that require seismic restraint.
- The "Not Required" box should only be checked if the component is exempt from requiring seismic restraint by Section 13.1.4 of ASCE 7, or if the component in question will not be provided as part of the project.
- d) If the "Deferred Submittal" box is checked, the additional requirements of Section 6 included in this handout must be met.

#### 3. Submittal Requirements:

- a) The seismic restraint requirements for nonstructural components may be provided with the original construction documents submitted to University of Utah or may be submitted later as a deferred submittal. Whether provided with the original plans or later, the requirements of this section must be met.
- b) Seismic restraint submittals shall include construction documents meeting the requirements of Section 4 of this handout as well as supporting design information discussed in Section 5 of this handout.

#### Construction Documents:

- a) The construction documents must include seismic restraint details providing specific information relating to the materials, type, size, and locations of anchorages; materials used for bracing; attachment requirements of bracing to structure and component; and locations of transverse and longitudinal sway bracing and rod stiffeners.
- b) The construction documents must note the special inspection and testing requirements for the seismic restraint of nonstructural components per Section 13.2.7 of ASCE 7.
- c) University of Utah will accept products that have been tested and listed under the ICC Evaluation Service Program, as long as they are installed in accordance with the provisions and limitations of the ICC Listing Report.
- d) The requirements for anchorage/bracing of nonstructural components cannot be satisfied by a general reference to Design Manuals. Design professional may utilize these manuals as a basis of their design, but must provide all supporting documentation to ensure that the design conforms to the requirements of the IBC.
- e) Rod hangers shall not be used as seismic supports unless the length of the hanger from the supporting structure is 12 in. or less. Rod hangers shall not be constructed in a manner that subjects the rod to bending moments.

#### 5. Seismic Restraint Design Requirements:

- a) Per IBC 1613.1, the seismic restraint of nonstructural components shall meet the requirements of ASCE 7. If the component in question is exempt by Section 13.1.4 of ASCE 7, a submittal noting the seismic restraint of that particular component is not required.
- b) The seismic restraint design must meet the requirements listed in Table 13.2-1 of ASCE 7. These requirements may be met by providing either a project-specific design prepared by a registered design professional, or a manufacturer's certification that the component is seismically qualified.
- A certificate of seismic qualification by the manufacturer must be accompanied by one of the following items:
  - i) An engineered analysis conforming to the requirements of Chapter 13 of ASCE 7.
  - Testing by a nationally recognized testing standard procedure such as ICC-ES AC 156. The substantiated seismic design capacities shall exceed the seismic demands determined by Section 13.3 of ASCE 7.
  - iii) Experience data conforming to a nationally recognized procedure. The substantiated seismic design capacities shall exceed the seismic demands determined by Section 13.3 of ASCE 7.

- d) The following seismic restraint publications shall be considered "Accepted Engineering Practice":
  - i) Seismic Restraint Manual, Guidelines for Mechanical Systems (3rd Edition, published by SMACNA)
  - ii) Guidelines and details that have been evaluated and reported under the International Code Council Evaluation Service Program (ICC-ES).
  - iii) Seismic restraint manuals, guidelines and details that have been approved by the California Office of Statewide Health Planning and Development (OSHPD) under their pre-approval program for seismic restraint systems. Approval by the University of Utah Building Official to use this reference is required prior to proceeding with design.

#### 6. Deferred Submittals:

- a) Deferred submittals of seismic restraint of nonstructural components must be submitted to the UNIVERSITY OF UTAH Building Official a minimum of two weeks prior to the planned installation in order to allow for plan review and forwarding to inspectors. In the event that the submittal is deficient, additional time may become necessary.
- b) Deferred submittals shall be clearly noted on the construction plans as required by IBC in Chapter 1. Prior to submitting to the UNIVERSITY OF UTAH Building Official, the deferred submittal must follow the protocol outlined in the section entitled "Deferred Submittals" in the IBC Chapter 1. Please note on the plans that no deferred submittal elements shall be installed until University of Utah approval has been received.
- c) If seismic restraints of nonstructural components are installed prior to receiving University of Utah approval, they shall not be covered or concealed until plan review and inspection approval. Further, installers are proceeding at their own risk until plan review and inspection approval occurs.

#### **NONSTRUCTURAL COMPONENT CHECKLIST**

ITEM DESCRIPTION	NOT REQUIRED	ON CONST DOCUMENTS	DEFERRED SUBMITTAL	COMMENTS
Architectural Components				
Interior nonstructural walls and partitions				
Cantilever elements (i.e. parapets, etc)				
Exterior nonstructural wall elements				
Veneer				
Penthouses				
Ceilings (i.e. suspended grid or hard-lid)				
Cabinets (i.e. storage cabinets, equip, etc)				
Access floors				
Storage racks				
Appendages & ornamentations				
Signs & billboards				
Other:				
Other:				
MEP Components				
Fire sprinklers				
Mechanical equipment (i.e. HVAC, fans, air handler, boilers, furnaces, tanks, chillers, water heaters, evaporators, engines, turbines, pumps, compressors, MFR equipment, etc.)				

Electrical equipment (i.e. generator batteries, inverters, transformers, M panel Boards, switch gears, cabine etc.)	ICC,				
Elevator & escalator components					
Communication equipment, computinstrumentation, and controls					
Roof-mounted chimneys stacks, co & electrical towers	oling				
Lighting fixtures					
Vibration isolated components					
Piping & conduit systems					
Ductwork including in-line compone	ents				
Conveyors					
Cable trays					
Seismic restraint design of nonstructure mechanical, electrical, plumbing components	ctural				
Other:					
Other:					
Special Inspections for the project must be listed below in accordance with the provisions of IBC 1704 and for miscellaneous areas. Indicate required Special inspections for project by checking the appropriate boxes and provide specific instructions as to the inspection requirements and the expectations of the architect, engineer, and owner:  FABRICATORS (IBC 1704.2.5)					
Approved Fabricator	Fabricators	Name:			
Unapproved Fabricator	Fabricators Name:				
In-plant inspections					
Steel Construction	W	elding/		Details	
	S	TEEL (	(IBC 1705.2)		
ITEM (IBC REFERENCE)			CONTINUOUS	PERIODIC	REFERENCED STANDARD
Structural Steel (1705.2.1)					AISC 360
Cold-formed Steel Deck (1705.2.2	2)				SDI QA/QC
Open-web Steel Joists & Joist Gi  1. Installation of open-web steel jois girders.					

	a. End connections – welding or bolted.			SJI specifications, Section 2207.1.
	b. Bridging – horizontal or diagonal.			
	1. Standard bridging.			SJI specifications Section 2207.1.
	Bridging that differs from the SJI     Specifications listed in Section 2207.1.			
	ld-formed Steel Trusses Spanning 60ft or eater (1705.2.4)			
	CONCRETE CONSTR	UCTION (1705.3	& T1705.3)	
ITE	M (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD
Ma	terials (1705.3.2)			STANDARD
1.	Inspect reinforcement, including prestressing tendons, and verify placement.			ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 (IBC 1908.4)
2.	Reinforcing bar welding:  a. Verify weldability of reinforcing bars other than ASTM A 706;			AWS D1.4
	<ul><li>b. Inspect single-pass fillet welds, maximum 5/16"; and</li></ul>			ACI 318: 26.6.4
	c. Inspect all other welds.			
3.	Inspection of anchors cast in concrete.			ACI 318: 17.8.2
4.	Inspection of anchors post-installed in hardened concrete members.  a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.			ACI 318: 17.8.2.4
	b. Mechanical anchors and adhesive anchors not defined in 4.a			ACI 318: 17.8.2
5.	Verifying use of required design mix.			ACI 318: Ch. 19, 26.4.3, 26.4.4 (IBC 1904.1, 1904.2, 1908.2, 1908.3)
6.	Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.			ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12 (IBC 1908.10)
7.	Inspect concrete and shotcrete placement for proper application techniques.			ACI 318: 26.5 (IBC 1908.6, 1908.7, 1908.8)
8.	Verify maintenance of specified curing temperature and techniques.			ACI 318: 26.5.3- 26.5.5 (IBC 1908.9)
9.	<ul><li>Inspection of prestressed concrete:</li><li>a) Application of prestressing forces.</li><li>b) Grouting of bonded prestressing tendons in the seismic force-resisting system.</li></ul>			ACI 318: 26.10

10. Inspect erection of precast concrete members.

ACI 318: Ch. 26.9

11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.			ACI 318: 26.11.2
<ol> <li>Inspect formwork for shape, location and dimensions of the concrete member being formed.</li> </ol>			ACI 318: 26.11.1.2(b)
		27.0	
MASONRY CON	ISTRUCTION (17	05.4)	DEEEDENOED
ITEM (IBC REFERENCE)	INSPECTION REQ'D		REFERENCED STANDARD
Masonry Construction			TMS 402/ACI 530 ASCE 5 TMS 602 ACI 530.1/ASCE 6
Empirical masonry – Cat. IV (1705.4.1)			
Vertical masonry foundation elements (1705.4.2)			
WOOD CONS	TRUCTION (1705	5.5)	
ITEM (IBC REFERENCE)	INSPECTION REQ'D		REFERENCED STANDARD
High-load diaphragms (1705.5.1)			OTANDARD
Metal-plate-connected wood trusses spanning 60 feet or greater (1705.5.2)			
1111 3 11111 ( 1111 )			
	TRUCTION (1705	.6)	
	FRUCTION (1705	.6) PERIODIC	REFERENCED STANDARD
SOILS CONSTITEM (IBC REFERENCE)  Verify materials below shallow foundations are	•	•	_
SOILS CONSTITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and	•	•	_
SOILS CONSTITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill	•	•	_
SOILS CONSTITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	•	•	_
SOILS CONSTITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of	•	•	_
ITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	CONTINUOUS	PERIODIC	
ITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	CONTINUOUS  DUNDATIONS (1	PERIODIC	STANDARD
SOILS CONSTITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.  DRIVEN DEEP FOR ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	_
ITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.  DRIVEN DEEP FOR ITEM (IBC REFERENCE)  Verify element materials, sizes and lengths comply	CONTINUOUS  DUNDATIONS (1	PERIODIC	REFERENCED
ITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.  DRIVEN DEEP FOR ITEM (IBC REFERENCE)  Verify element materials, sizes and lengths comply with the requirements.  Determine capacities of test elements and conduct	CONTINUOUS  DUNDATIONS (1' CONTINUOUS	PERIODIC	REFERENCED
ITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.  DRIVEN DEEP FOR ITEM (IBC REFERENCE)  Verify element materials, sizes and lengths comply with the requirements.  Determine capacities of test elements and conduct additional load tests, as required.  Inspect driving operations and maintain complete	CONTINUOUS  DUNDATIONS (1' CONTINUOUS	PERIODIC	REFERENCED
ITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.  DRIVEN DEEP FOR ITEM (IBC REFERENCE)  Verify element materials, sizes and lengths comply with the requirements.  Determine capacities of test elements and conduct additional load tests, as required.  Inspect driving operations and maintain complete and accurate records for each element.	CONTINUOUS  DUNDATIONS (1' CONTINUOUS	PERIODIC	REFERENCED
ITEM (IBC REFERENCE)  Verify materials below shallow foundations are adequate to achieve the design bearing capacity.  Verify excavations are extended to proper depth and have reached proper material.  Perform classification and testing of compacted fill materials.  Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.  Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.  DRIVEN DEEP FOR ITEM (IBC REFERENCE)  Verify element materials, sizes and lengths comply with the requirements.  Determine capacities of test elements and conduct additional load tests, as required.  Inspect driving operations and maintain complete	CONTINUOUS  DUNDATIONS (1' CONTINUOUS	PERIODIC	REFERENCED

and butt elevations and document any damage to foundation element.			
For steel elements, perform additional inspections in			
accordance with Section 1705.2.  For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1705.3.			
For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.			
CAST-IN-PLACE DEE	P FOLINDATION	IS (1705 8)	
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED
Inspect drilling operations and maintain complete and accurate records for each element.		T EMODIO	STANDARD
Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes.			
For concrete elements, perform additional inspections in accordance with section 1705.3.			
HELICAL PILE FO	OUNDATIONS (1	705.9)	
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD
Installation			
Verify records of: Installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent installation data as required by the <i>registered design</i> professional in responsible charge.			
SPECIAL INSPECTIONS FOR	WIND REQUIRE	EMENTS (1705.1)	1)
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD
Structural wood (1705.11.1)			
Cold-formed steel framing (1705.11.2)			
Wind-resisting components (1705.11.3)			
SPECIAL INSPECTIONS FOR	SEISMIC RESIS	STANCE (1705 1	2)
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED
Structural steel (1705.12.1)	П	П	STANDARD AISC 341
Structural wood (1705.12.2)  a. Continuous special inspection shall be required during field gluing operations of elements of the seismic force-resisting		Ш	7.100 041
system.  b. Periodic special inspection shall be required for nailing, bolting, anchoring and other fastening of elements of the seismic forceresisting system, including wood shear walls,			

wood diaphragms, drag struts, braces, shear panels and hold-downs.					
Cold-formed steel framing (1705.12.3)					
Designated seismic systems (1705.12.4)					
Architectural components (1705.12.5)					
Access floors (1705.12.5.1)					
Plumbing, Mechanical & electrical (1705.12.6)					
Storage racks (1705.12.7)					
Seismic isolation systems (1705.12.8)					
Cold-formed steel special bolted moment frames (1705.12.9).					
TESTING FOR SEISM	IC RESISTANCE	(1705.13)			
ITEM (IBC REFERENCE)	TESTING REQ'D		REFERENCED STANDARD		
Structural steel (1705.13.1)					
1705.13.2 Nonstructural components (1705.13.2)					
Seismic isolation systems (1705.13.4)					
SPRAYED FIRE-RESIS	TANT MATERIAI	S (1705.14)			
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD		
Physical & visual tests (1705.14.1)			0174427442		
Structural member surface conditions (1705.14.2)					
Material application (1705.14.3)					
Material thickness (1705.14.4)					
Material density (1705.14.5)					
Bonding strength (1705.14.6)					
MASTIC & INTUMESCENT FIR	E DECICTANT C	OATINGS (4705	15)		
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED		
Material & Installation	П	П	STANDARD		
EXTERIOR INSULATION & FINISH SYSTEM (EIFS) (1705.16)					
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	STANDARD		
Material & Installation					
FIRE-RESISTANT PENETRATIONS & JOINTS (1705.17)					
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD		
Penetration firestops (1705.17.1)					
Fire-resistant joint systems (1705.17.2)					

SMOKE CONTROL (1705.18)				
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD	
Material & Installation				

MISCELLANEOUS AREAS (These areas are recommended by Architect/Engineer and approved by University of Utah Building Official)					
ITEM (IBC REFERENCE)	CONTINUOUS	PERIODIC	REFERENCED STANDARD		
Suspended ceiling grid clips					
Suspended ceiling wire spacing (seismic)					
Soils backfill (specify locations and frequency)					
Soils for curb and gutter (specify locations and frequency)					
Soils for parking lots (specify locations and frequency)					
Soils for utility trench backfill					
Reinforcement for slab on grade sidewalks and drive approaches (specify locations and frequency)					
Reinforcement for interior slab on grade (specify locations and frequency)					
Concrete testing for slab on grade sidewalks and drive approaches (specify locations and frequency)					
Concrete testing for interior slab on grade (specify locations and frequency)					
Masonry veneer (specify locations and frequency)					
Asphalt inspection (specify locations and frequency)					
Asphalt testing (specify locations and frequency)					
Inspection of seismic resistance (specify locations and frequency)					
Steam and water line welding (specify locations and frequency)					
Seismic supports for duct work and sealing of joints for duct work					
Seismic supports for electrical raceways, cable trays and lights					
Seismic supports for plumbing lines including gas, water, steam and condensation					
Seismic bracing for mechanical units both on slab					

#### **SPECIAL INSPECTORS SHALL:**

- Be approved by the Building Official prior to performing any duties;
- Provide proof of licensure as a special inspector by the State of Utah for each type of inspection;
- Inspection reports are to meet the requirements of IBC 1704.2.4 and University of Utah standards;
- Inspection reports are to be submitted to the code consultant, architect, project manager, and the University of Utah Building Official within 48 hrs. of inspections;
- A final inspection report shall be submitted following completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the drawings, specifications and applicable codes. IBC 1704.2.4