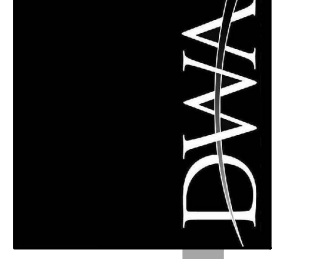




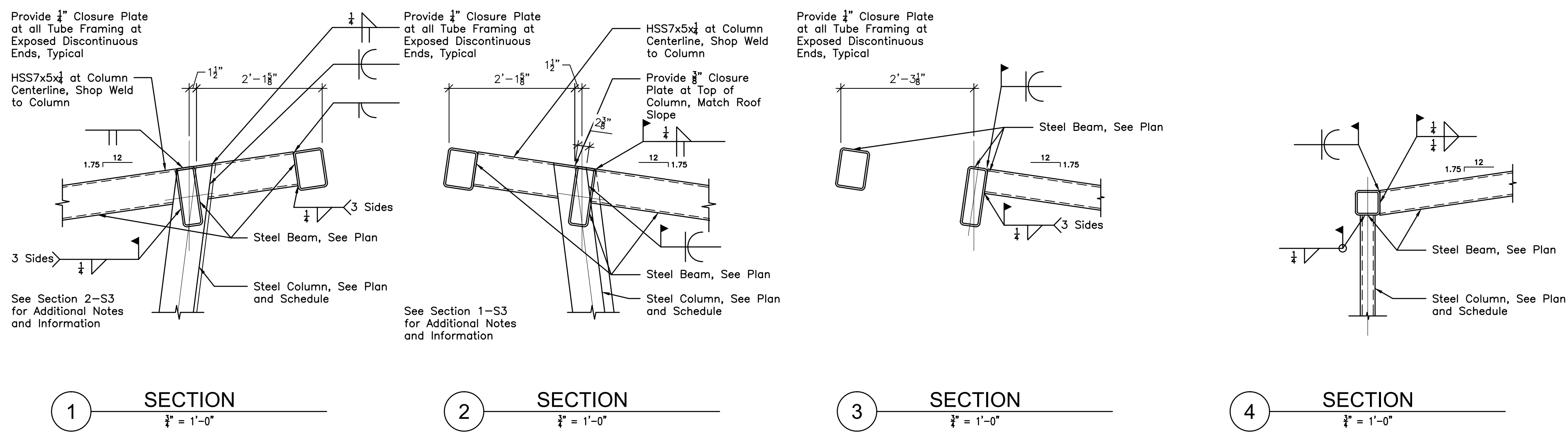
Dudley Williams and Associates, PA
2301 Laura S. Suite 200 - Wichita, Kansas 67211-1614
316-452-7591 • www.dwa98c.com



COMMERCE RAIL YARD PARKING LOT
STAGE COVER AND FOUNDATIONS
WICHITA, KANSAS

PROJECT NO.
16116.00
DATE
August 27, 2016

S3



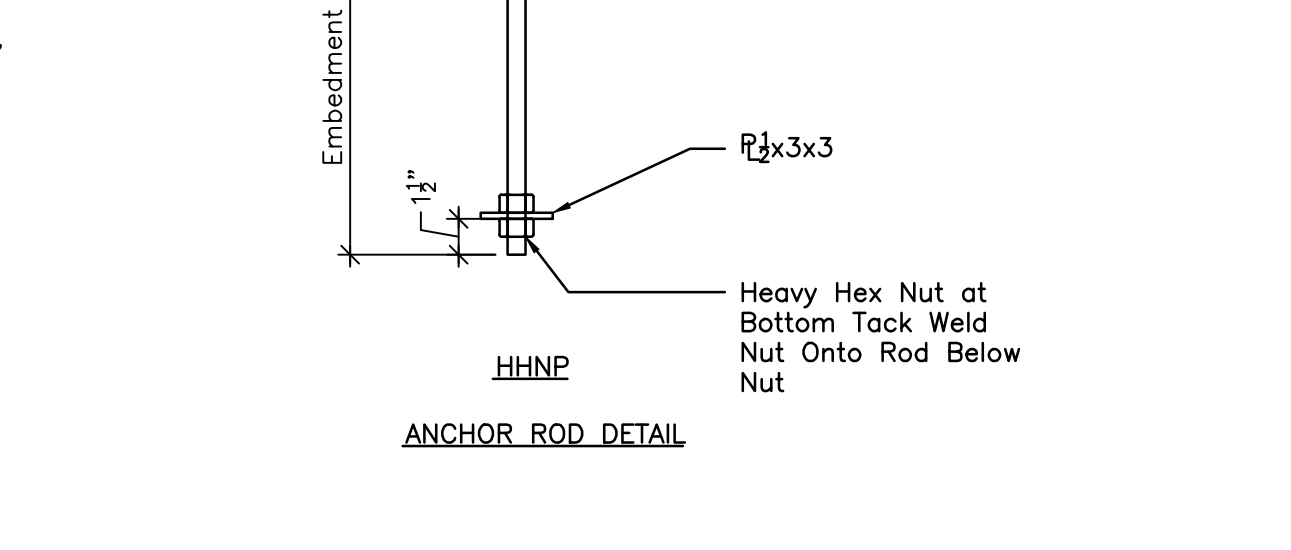
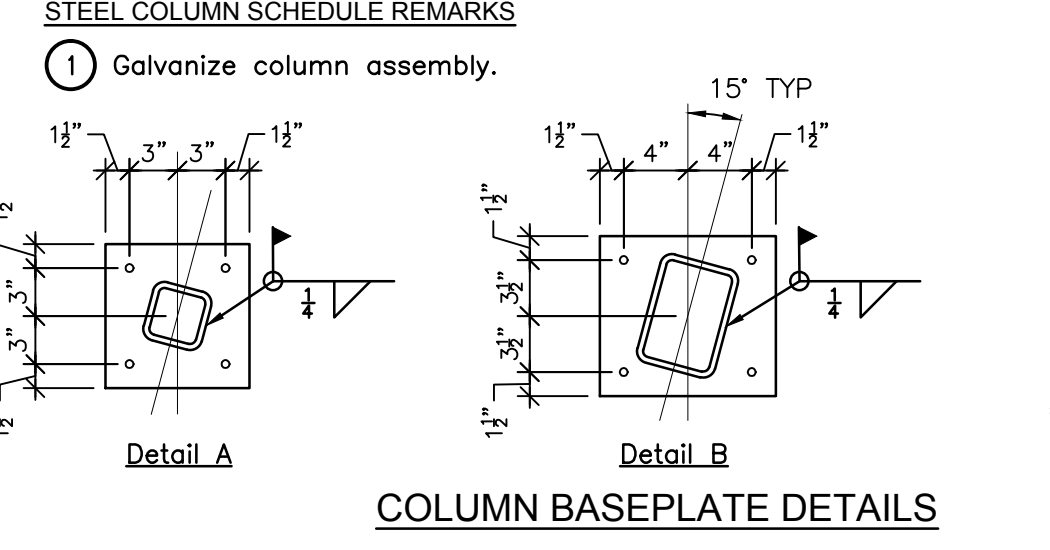
STEEL COLUMN SCHEDULE

MARK	S1	S2	S3
COLUMN SECTION	HSS3x3x1/2	HSS7x5x1/2	HSS7x5x1/2
BASEPLATE	Embed PL1/2x9x9	Embed PL1/2x10x11	PL1/2x13x13
BASEPLATE DTL	A	B	C
ELEV. BOTTOM	104-5 1/2	104-5 1/2	102-4
GROUT	-	-	2"
ANCHOR RODS	4-#4x2-0	4-#4x2-0	4-AR1

ANCHOR ROD SCHEDULE

MARK	SIZE	PROJ.	EMBED	HOOK
AR1	Galv. 1/2"x1-6	5"	13"	HHNP

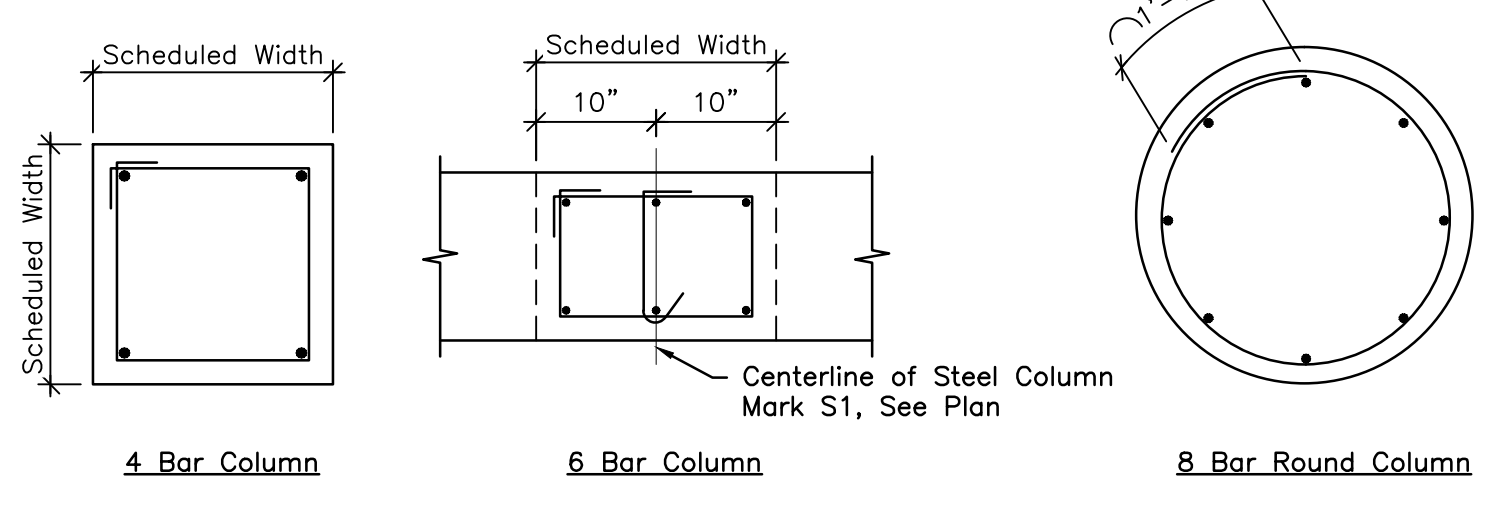
HHN - Galvanized Heavy Hex Nut, See Anchor Rod Detail
Provide 1 1/2" Holes in Bearing Plate or Column Base Plate for 1/2" Anchor Rods.



CONCRETE COLUMN AND FOOTING SCHEDULE

MARK	F1	F2	F3	F4	F5	F6	F7	F8
COLUMN SIZE	20x20	20x20	20x20	28"ø	28"ø	28"ø	28"ø	28"ø
ELEV. TOP COLUMN	102-4	103-10	104-6	104-6	104-6	104-6	104-6	104-6
COLUMN VERTS.	Footings Dowels	Footings Dowels	Footings Dowels	Footings Dowels	Footings Dowels	Footings Dowels	Footings Dowels	Footings Dowels
COLUMN TIES	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
ELEV. TOP FOOTING	98-4	98-4	98-4	98-4	Top of Ftg.	Top of Ftg.	Top of Ftg.	Top of Ftg.
FOOTING SIZE	4-0x4-0x1-0	See Plan	See Plan	4-0x4-0x1-0	3-6x5-6x3-4	3-6x5-6x3-4	3-6x8-0x3-4	3-6x10-0x3-4
FOOTING BARS	8-#4x3-6	See Section	See Section	8-#4x3-6	8-#4x3-0	8-#4x3-0	8-#4x3-0	8-#4x3-0
FOOTING DOWELS	4-#7x5-8	4-#7x7-2	6-#5x7-6	4-#7x7-2	4-#7x4-0	2ø4-#7x4-0	3ø4-#7x4-0	3ø4-#7x4-0

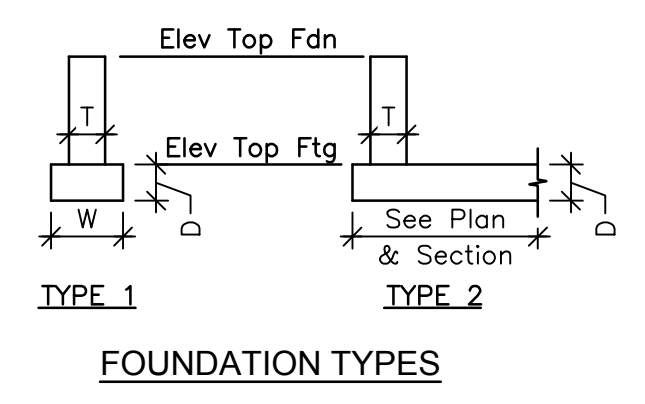
- CONCRETE COLUMN AND FOOTING SCHEDULE REMARKS:**
- Provide concrete column reinforcing for a 20x20 concrete column in foundation, see plan and sections. Provide coverage at ties per ACI for a formed foundation exposed to earth. Center column reinforcing below artwork rail except centerline of column 2"± to provide 2" concrete cover at face of foundation per Referenced Plan Note 2, Sheet S1.
 - #3 ties, 1 @ 24", 3 @ 3" o.c. top, remainder at 12" o.c.
 - Provide concrete column reinforcing for a 2-20x20 concrete columns in footing, see plan and sections. Provide coverage at ties per ACI for a formed foundation exposed to earth. Center column reinforcing below each artwork rail.
 - 8-#5x5-0, 4 Top and 4 Bottom 12-#4x3-0, 6 Top and 6 Bottom
 - Provide concrete column reinforcing for a 3-20x20 concrete columns in footing, see plan and sections. Provide coverage at ties per ACI for a formed foundation exposed to earth. Center column reinforcing below each artwork rail.
 - 8-#7x7-6, 4 Top and 4 Bottom 20-#4x3-0, 10 Top and 10 Bottom
 - 8-#8x9-6, 4 Top and 4 Bottom 24-#4x3-0, 12 Top and 12 Bottom
 - Provide concrete column reinforcing for a 14x20 concrete column in foundation wall, see plan and Detail 15-S2. Provide coverage at ties per ACI for a formed foundation exposed to earth. Center column reinforcing below steel column.



WALL FOOTING AND FOUNDATION SCHEDULE

MARK	TYPE	FOOTING			FOUNDATION			REF. SECTION	REMARKS
		ELEV. TOP	WIDTH W	DEPTH D	ELEV. TOP	ELEV. LEDGE	DIMENSIONS T A		
W1	1	98-4	1-4	1-0	(1)	-	0-8	-	1-S2
W2	1	98-4	2-4	1-0	(1)	-	0-8	-	1-S2
W3	1	98-4	1-4	1-0	(1)	-	0-8	-	2-S2
W4	1	98-4	1-4	1-0	(1)	-	0-8	-	3-S2
W5	1	98-4	7-0	1-0	104-6	-	1-2	-	5-S2 SIM
W6	1	98-4	7-0	1-0	104-6	-	1-2	-	4-S2
W7	1	98-4	3-0	1-0	104-6	-	1-2	-	5-S2
W8	1	98-4	3-0	1-0	104-6	-	1-2	-	6-S2
W9	2	98-4	See Plan	1-0	(1)	-	0-8	-	7-S2
W10	1	98-4	7-0	1-0	(1)	-	0-8	-	7-S2
W11	1	98-4	7-0	1-0	103-10	-	Varies	-	8-S2
W12	2	98-4	See Plan	1-0	103-10	-	Varies	-	10-S2
W13	2	98-4	See Plan	1-0	(1)	-	0-8	-	1-52 SIM
W14	2	98-4	See Plan	1-0	104-6	-	1-2	-	13-S2
W15	2	98-4	See Plan	1-0	102-4	-	0-8	-	4-S2

- WALL FOOTING AND FOUNDATION SCHEDULE REMARKS:**
- Elevation top of foundation wall varies at 8" below slab elevation, see Civil drawings and Section 1-3, 7 and 8-S2.



GENERAL STRUCTURAL NOTES
General Contractor shall review and stamp all of the shop drawings before submitting for review. Verify all electrical opening sizes and locations with the electrical contractor. No pipes, sleeves, or etc. shall pass through the beams or columns unless indicated on the plan. The contractor shall design, provide, and maintain temporary bracing, shoring, guying, etc. and other methods as required to prevent any excessive loading and to stabilize the structural elements during construction. These methods shall remain in place until all members and steel connections have been completed. The Contractor shall retain a licensed geotechnical engineer to verify that the existing soil conditions will allow a minimum net allowable total load bearing pressure of 2000 psf. Long-term settlement of this bearing pressure shall not exceed 3/4 inches. Differential settlement across the structure shall not exceed one-half of the total settlement. Notify the Architect/Engineer for further direction if the existing soil conditions are not capable of providing the defined foundation design criteria.

The stage cover framing and stage foundation systems are designed per the International Building Code - 2012 Edition.

The owner shall perform or engage one or more qualified independent testing and inspection agency to perform all material testing and inspection requirements for compliance with the governing building code, the project specifications, the local building inspection department, and the following Structural Special Inspection Notes.

Structural steel erection shall comply with OSHA Standard 29 CFR Part 1926, Subpart R and all other governing regulations.

DESIGN LOADS
Building structure is designed for the following loads and criteria:

Building Occupancy Category: II

Dead: Weight of materials and construction
Ceiling dead load: 5 psf

Live Load: Roof live load: 20 psf (non-reducible)

Atmospheric (long): Radial ice thickness: 0.75 inches
Concurrent wind speed Vc: 40 mph
Importance factor Ie: 1.0

Wind: Basic wind speed (3-second gust): Vult = 115 MPH Ultimate
Internal pressure coefficient: C = +0.18
Wind exposure category: C
+0.18

Seismic: Seismic importance factor: I = 1.0
Mapped spectral response acceleration: Sa = 0.109 S1 = 0.054
Site class: D
Spectral response coefficients: Sds = 0.117 Sd1 = 0.066
Seismic Design Category: B
Equivalent lateral force
Analysis procedure: Equivalent lateral force
Basic seismic force resisting system: Steel system not specifically detailed for seismic resistance
Response modification factor: R = 3
Seismic response coefficient: Cs = 0.039
Design base shear: 0.033W

STRUCTURAL SPECIAL INSPECTIONS
The owner shall perform or engage one or more qualified independent testing and inspecting agencies to perform the material testing and inspection reports as outlined in this section and include above.
Testing and inspection reports shall be furnished to the Building Official, the Civil Engineer, and the Structural Engineer. Reports shall include that the material tested and the work inspected are in conformance with the Contract Documents. Discrepancies shall be brought to the attention of the Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be reported to the Building Official, the Civil Engineer, and the Structural Engineer.
The testing and inspecting agencies shall submit a final report for each type of work stating that any discrepancies noted in the testing and inspections have been corrected and that the structural work was, to the best of their knowledge, performed in conformance with the Contract Documents.
The testing and inspection program does not relieve the Contractor of any responsibility for constructing the project in accordance with the Contract Documents and for controlling the quality of construction.
The Contractor shall be responsible for the scheduling and the timely notification of the testing and inspection agencies of the need for material testing or inspections.
All work which requires testing or inspection shall be ready for testing or inspection at the time of the testing and inspecting agency's visit. No work shall be performed which would conceal items to be tested or inspected until the work has been reviewed and accepted.
The following types of work require special inspection (IBC references refer to the International Building Code edition referenced above):

- Inspection of fabricators shall comply with IBC Section 1705.2.5.
- Testing and inspection of steel construction shall comply with IBC Section 1705.2, IBC Table 1705.2.2, and American Institute of Steel Construction (AISC) Specification for Structural Steel Buildings 360.
 - Submit material test reports, manufacturer's certification, product data sheets, welding procedure specifications, welding personnel performance qualification records, fabricator/erector quality control manual, fabricator/erector inspector qualifications as specified. Contractor shall maintain same for review by Architect/Engineer as indicated in AISC 360 Chapter N.
 - Submit AISC performance qualification records for steel shop fabrication or field erection welding.
 - Perform visual inspection of the qualification or erected steel framing to verify compliance with the construction drawings, including member location, bracing, stiffeners, and connection types.
 - Perform visual inspection of all shop fabrication and field erection welds.
 - Perform ultrasonic inspection of all partial or complete joint penetration welds during the shop fabrication and field erection.
- Testing and inspection of concrete construction shall comply with IBC Section 1705.3 and IBC Table 1705.3.
 - Perform sampling and testing of cast-in-place concrete as specified.
 - Perform periodic inspection of reinforcing for steel size, cover, spacing, positioning, lap lengths and locations.
 - Perform inspection of the reinforcing for steel size, cover, spacing, positioning, lap lengths and locations at slabs on grade.
 - Perform inspection of concrete placement for proper procedures for transporting, placing, consolidating, and finishing of concrete.
 - Perform periodic inspection of concrete curing and protection procedures, including compliance with the hot and cold weather requirements defined in the specifications.
 - Contractor shall maintain records of all batch reports and delivery tickets on each load of concrete delivered to the project site for periodic review by the Architect/Engineer.
- Testing and inspection of the soils shall comply with IBC Section 1705.6 and IBC Table 1705.6.
 - Perform sampling, testing, and inspection of the soil type, exposed subgrade, moisture content, lift thickness, and compaction as specified.
 - Perform periodic testing and inspection of the soils at the foundation system bearing elevation to verify the required soil bearing capacity.
- Testing and inspection of post-installed anchors and post-installed reinforcing bars shall comply with IBC Section 1705.11.
 - Perform an initial post-installed anchor and reinforcing bar installation inspection for each type and size of post-installed anchor and reinforcing bar. Any change in the personnel performing the post-installed anchor or reinforcing bar installation shall require an initial installation inspection.
 - Perform periodic post-installed anchor and post-installed reinforcing bar installation inspections during the project to verify that the anchor and reinforcing bar installations continue to be properly performed.
 - Post-installed anchor and reinforcing bar installation inspections shall verify anchor/reinforcing bar type, diameter, embedment depth, spacing, adhesive type, hole dimensions, base material, hole cleaning procedures, and adherence to the manufacturer's installation instructions.
 - Perform visual observation of all completed post-installed anchor and post-installed reinforcing bar installations.

SUBGRADE PREPARATION AND EARTHWORK NOTES
All subgrade preparation and earthwork shall be performed under the direction of the Geotechnical Engineer. The Geotechnical Engineer shall approve all soil materials, monitor all earthwork operations, and perform the appropriate testing during the earthwork process.
Subgrade preparation shall include the removal of all existing slabs, foundations, pavement, and stripping the exposed surface to a minimum 6" depth to remove all surface vegetation, organic material, existing fill material, and other deleterious material or unsuitable soil material encountered.
After the site preparation work has been completed, proof roll the exposed subgrade in the presence of the Geotechnical Engineer to identify any areas of soft or unstable material. Remove any unsatisfactory material and replace with suitable material as directed by the Geotechnical Engineer.
Scarify, moisture condition, and compact the top 8" of the exposed subgrade prior to starting the engineered fill placement operations. Moisture condition the scarified soils to at least 3 percentage points above the soils optimum moisture content and compact to a minimum of 95% of the maximum dry density as determined by the Standard Proctor, ASTM D-698.
The clean granular drainage base material shall be a well-graded aggregate meeting the ASTM D448 No. 57 material.
The low volume liquid (LVC) zone material shall be an approved soil, free of organic material and deleterious material with a liquid limit less than 45 and a plasticity index less than 20.
All fill materials shall be placed in maximum 6" thick loose horizontal lifts and shall be compacted to at least 95% of Standard Proctor maximum dry density, ASTM D-698.
Cohesive soils shall be placed at a moisture content between optimum and 3 percent above their optimum moisture content. The specified moisture content shall be maintained in the soils until the floor slab has been placed.

CAST-IN-PLACE CONCRETE
All concrete shall have the following properties and minimum compressive strengths at 28-days.
Footings: 3000 psi with a max. W/C ratio of 0.50
Foundation Walls: 4000 psi with a max. W/C ratio of 0.45
Exterior Slabs and Pavement: 4000 psi with a max. W/C ratio of 0.45

All concrete shall be proportioned for a 2" to 5" slump range at the point of placement.
All cement shall be Type I or II conforming to ASTM C150. Fly ash conforming to ASTM C618, Type C or F may be used to replace a maximum of 20% of the cement or 100 pounds per cubic yard of concrete, whichever is less.
All aggregate for normal weight concrete shall meet ASTM C33. Aggregate for lightweight concrete shall meet ASTM C973. All aggregate shall be proportioned such that its design shall contain a minimum of 50% coarse aggregates by gradation requirements set forth in ASTM C33. Coarse aggregate shall meet No. 67 grading requirements.
Exterior exposed concrete shall have from 4 to 7% entrained air.
Concrete shall contain a water-reducing admixture meeting ASTM C494, Type A or F, at a dosage to provide the necessary flowability and workability within the specified slump range.
Concrete shall be in strict conformance with the current "ACI Manual of Concrete Practice".
No aluminum shall be placed in the concrete.
Chamfer all exposed edges of the concrete 3/4".
Construction joints or construction joints in slabs on grade shall be spaced to divide the slab into panels not to exceed 225 square feet. The longer dimension of each panel shall not exceed the shorter dimension by more than 20 percent.
All saw-cut joints in slab on grade floors shall use an early entry cut-off sawing system.
Cast-in-place concrete shall be obtained for testing per ASTM C143 for each set of test cylinders taken. Perform additional slump test on truckloads when consistency seems to have changed.
a. Obtain one set of four test cylinders for each day's pour of concrete mature less than 28 cubic yards, plus one set of four test cylinders for each additional 50 cubic yards or fraction thereof.
b. Slump: One test at point of discharge per ASTM C143 for each set of test cylinders taken. Perform additional slump test on truckloads when consistency seems to have changed.
c. Concrete Temperature: One test per ASTM C1064 for each set of test cylinders taken or hourly when air temperature is below 40°F or above 90°F.
d. Air Content: Volumetric method per ASTM C173 or pressure method per ASTM C231 for each set of test cylinders.
e. Compression Test Specimens: One set of four standard cylinders per ASTM C31 at the specified frequency.
f. Compressive Strength Tests: One set of four cylinders per ASTM C39. Test one cylinder at 7-days, two cylinders at 28-days, and hold one in reserve to be tested as directed.
Personnel trained and certified in concrete sampling shall perform all concrete testing and sampling. Test results shall be submitted to the Architect, Engineer, and Contractor within 24 hours of completing tests. Concrete testing shall be performed by an approved testing agency. Submit 3 copies of the concrete mix design to the Architect/Engineer for review prior to beginning construction.