

BUILDING DESIGN DATA

GOVERNING BUILDING CODE: 2012 VIRGINIA STATEWIDE BUILDING CODE

- GRAVITY LOADS
 - ROOF - DEAD LOAD

	MAX.	MIN.
- ROOFING INSULATION AND METAL DECK	= 6.0 PSF	= 3.0 PSF
- STEEL JOIST	= 3.0 PSF	= 2.0 PSF
- MECH., ELEC., PLUMBING, SPRINKLERS AND MERCHANDISE	= 8.0 PSF	= 1.0 PSF
 - TOTAL DEAD LOAD
- MINIMUM ROOF-LIVE LOADS, L_r = 20.0 PSF
- ROOF SNOW LOADS, S
 - GROUND SNOW LOAD, P_g = 18 PSF
 - SNOW EXPOSURE FACTOR, C_e = 1.0
 - SNOW LOAD IMPORTANCE FACTOR, I_s = 1.0
 - THERMAL FACTOR, C_t = 1.0
 - ALL APPLICABLE EFFECTS DUE TO SNOW DRIFTING
- WIND LOADS, W
 - BASIC WIND SPEED (3 SECOND GUST), V = 123 MPH
 - ULTIMATE WIND SPEED = 95 MPH
 - WIND LOAD IMPORTANCE FACTOR, I = 1.0
 - BUILDING CATEGORY, ENCLOSED, SIMPLE DIAPHRAGM
 - OVERALL EXPOSURE CATEGORY, B
 - HEIGHT AND EXPOSURE ADJUSTMENT COEFFICIENT, K_h = 0.85
 - INTERNAL PRESSURE COEFFICIENT, GC I = 0.18
 - WIDTH OF EDGE/CORNER ZONE, a = 5.0 FT
 - COMPONENT AND CLADDING WALL DESIGN PRESSURES

- INTERIOR ZONE (100 SF)	= 14 PSF
- EDGE ZONE (100 SF)	= 16 PSF
- INTERIOR ZONE (50 SF)	= 15 PSF
- EDGE ZONE (50 SF)	= 17 PSF
 - COMPONENT AND CLADDING ROOF DESIGN PRESSURES (NET)

- INTERIOR ZONE (100 SF)	= 15 PSF
- EDGE ZONE (100 SF)	= 18 PSF
- INTERIOR ZONE (10 SF)	= 17 PSF
- EDGE ZONE (10 SF)	= 28 PSF
- CORNER ZONE (10 SF)	= 28 PSF
- SEISMIC DESIGN DATA
 - OCCUPANCY CATEGORY = II
 - MAPPED SPECTRAL RESPONSE COEFFICIENTS

S ₁	= 11.5
S ₂	= 5.1
 - SITE CLASS = E
 - SPECTRAL RESPONSE COEFFICIENTS

S ₁	= 1.9
S ₂	= 12.0
 - SEISMIC DESIGN CATEGORY = B
 - BASIC SEISMIC FORCE-RESISTING SYSTEM, LOAD BEARING, INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
 - RESPONSE MODIFICATION COEFFICIENT, R = 3.5
 - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
 - SEISMIC RESPONSE COEFFICIENT, C_s = 0.038
 - BASE SHEAR, V = 17.1 k
- FOUNDATION DESIGN DATA
 - ALLOWABLE BEARING PRESSURE = 1,500 PSF (NET)
 - MINIMUM BEARING DEPTH = 24 IN.
 - SLAB SUBGRADE REACTION MODULUS = 150 PCI
 - FREEZE-THAW EXPOSURE SEVERITY = MODERATE

FOUNDATIONS, SLAB-ON-GRADE - GENERAL

- THE FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT DATED AUGUST 2, 2017, PREPARED BY ECS MID-ATLANTIC, LLC.
- SPREAD FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUSTAINING AN ALLOWABLE BEARING PRESSURE AS NOTED ABOVE FOR FOOTINGS UNDER FULL SERVICE DEAD AND LIVE LOADS.
- ALL BEARING MATERIAL SHALL BE INSPECTED BY THE INDEPENDENT TESTING AGENCY PRIOR TO CONCRETE PLACEMENT. THE INDEPENDENT TESTING AGENCY SHALL BE THE SOLE JUDGE AS TO THE SUITABILITY OF THE BEARING MATERIAL. FOOTING ELEVATIONS SHALL BE ADJUSTED AS REQUIRED.
- FOOTINGS MAY BE POURED INTO AN EARTH-FORMED TRENCH IF SOIL CONDITIONS PERMIT. THE TOP OF EXTERIOR FOOTING ELEVATION SHALL BE SET A MINIMUM OF 8" BELOW LOWEST FINAL ADJACENT EXTERIOR GRADE AND A MINIMUM OF 8" BELOW FINISH FLOOR. THE BOTTOM OF EXTERIOR FOOTINGS SHALL BEAR AT MINIMUM BEARING DEPTH BELOW LOWEST FINAL ADJACENT EXTERIOR GRADE.
- FOUNDATION WALLS THAT RETAIN EARTH SHALL BE BRACED AGAINST BACKFILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE, OR UNTIL THE CONCRETE OR MASONRY HAS ATTAINED ITS FULL COMPRESSIVE STRENGTH FOR CANTILEVER WALLS.
- WHERE FOUNDATION WALLS ARE TO HAVE EARTH PLACED ON EACH SIDE, PLACE FILL SIMULTANEOUSLY SO AS TO MAINTAIN A COMMON ELEVATION ON EACH SIDE OF THE WALL. VERIFY THE USE AND EXTENT OF PERIMETER INSULATION WITH THE ARCHITECTURAL DRAWINGS PRIOR TO THE INSTALLATION OF FOUNDATIONS. INSTALL PERIMETER INSULATION AS REQUIRED. STANDARD PROCEDURES OF FROST PROTECTION FOR FOUNDATIONS AND EXCAVATIONS SHALL BE EMPLOYED FOR WINTER CONSTRUCTION. BACK FILLING OF EXCAVATIONS SHALL BE DONE AS SOON AS POSSIBLE TO PROTECT FOUNDATIONS FROM FROST.
- HORIZONTAL BARS IN FOOTINGS AND CONCRETE WALLS SHALL BE CONTINUOUS. PROVIDE CORNER BARS AT ALL CORNERS AND INTERSECTIONS. UNLESS NOTED OTHERWISE.
- FOUNDATION PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER. PENETRATIONS SHALL BE FOUNDATION STEM WALL OR 6" CLEAR BELOW FOOTING.

CONCRETE

- ALL CONCRETE SHALL BE NORMAL WEIGHT (DENSITY=145 PCF) AND SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF AS NOTED IN THE FOLLOWING TABLE.

CONCRETE USE	SPECIFIED COMPRESSIVE STRENGTH (PSI)	MAXIMUM W/C RATIO
FOOTINGS	3,000 PSI	PER SPECIFICATIONS
EXTERIOR STRUCTURAL CONCRETE	4,500 PSI	PER SPECIFICATIONS
INTERIOR SLAB ON GRADE	4,000 PSI	PER SPECIFICATIONS
EXTERIOR SLAB ON GRADE	4,500 PSI	PER SPECIFICATIONS
SIDEWALKS	3,500 PSI	PER SPECIFICATIONS

- FOR ALL OTHER CONCRETE PROPERTIES SEE THE PROJECT SPECIFICATIONS.
- ALL EXTERIOR CONCRETE SHALL BE AIR-ENTRAINED PER ACI-318, LATEST EDITION, BASED ON FREEZE-THAW EXPOSURE SEVERITY AND AGGREGATE SIZE.
- ALL REINFORCED CONCRETE WORK SHALL BE PER "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI 318, LATEST EDITION.
- THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR REVIEW A MINIMUM OF TWO WEEKS PRIOR TO THE PLACEMENT OF ANY CONCRETE. THE CONCRETE MIX DESIGNS SHALL INCLUDE ALL DATA NECESSARY TO SHOW COMPLIANCE WITH THE PROJECT SPECIFICATIONS. CONCRETE REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
- CONCRETE REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706. HOOK ENDS OF BARS INTERRUPTED BY OPENINGS, HOOK TOP BARS AT ALL EDGES, AT ALL WALL AND SLAB OPENINGS, PROVIDE 2 # BARS X OPENING WIDTH PLUS 4 FEET (EACH SIDE) EACH FACE UNLESS SHOWN OTHERWISE.
- ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE DETAILING MANUAL.
- ALL REINFORCING SHALL BE SUPPORTED IN FORMS, SPACED WITH NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRE TOGETHER, IN ACCORDANCE WITH THE LATEST EDITION OF THE CRSI "MANUAL OF STANDARD PRACTICE".
- THE MINIMUM CONCRETE CLEAR COVER OVER REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE:

UNFORMED SURFACE IN CONTACT WITH THE GROUND	3 IN.
FORMED SURFACES EXPOSED TO EARTH OR WEATHER:	
#5 BARS AND LARGER	1 1/2 IN.
#5 BARS AND SMALLER	1 1/2 IN.
FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:	
#14 AND #16 BARS	1 1/2 IN.
#11 BARS AND SMALLER	3/4 IN.
- ALL LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE.

CONCRETE REINFORCING LAP SPLICE SCHEDULE

BAR SIZE	TENSION SPLICES (IN)	
	TOP BARS	OTHER BARS
#3	16	16
#4	20	16
#5	25	19
#6	29	23

-COMPRESSION FABRIC EMBEDMENT: 22 BAR DIAMETERS LAP
-WELDED WIRE FABRIC: ONE SPACING OF CROSS WIRES PLUS 2" LAP

REINFORCED MASONRY

- MASONRY WALLS HAVE BEEN DESIGNED TO SPAN VERTICALLY, AS SIMPLE SPANS, FROM FOUNDATION TO ROOF, AND ARE DEPENDENT UPON THE COMPLETED ROOF STRUCTURE, ROOF SHEATHING, AND COMPLETION OF ALL MASONRY WALLS FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING ALL NECESSARY BRACING AS REQUIRED FOR STABILITY, RESISTANCE OF CONSTRUCTION LOADS, AND FOR RESISTANCE TO WIND AND SEISMIC FORCES UNTIL THE ENTIRE STRUCTURE IS COMPLETE. THE SHORING SHALL NOT RELY ON ANY MOMENT RESISTANCE CAPACITY OF THE FOOTINGS.
- REINFORCED MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, f_m = 2000 PSI. MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, TYPE 1, AND SHALL HAVE A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 2800 PSI. BLOCK BELOW GRADE SHALL BE NORMAL WEIGHT ONLY. BLOCK ABOVE GRADE MAY BE LIGHTWEIGHT OR NORMAL WEIGHT. MORTAR SHALL CONFORM TO ASTM C270, TYPE S. PORTLAND CEMENT TYPE 1 OR 2, LOW ALKALI PER ASTM C150 NON AIR ENTRAINED OR HYDRATED LIME PER ASTM C207 TYPES. GROUT SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI. GROUT SHALL BE MECHANICALLY CONSOLIDATED USING A VIBRATOR WITH A MAXIMUM 3/4" DIAMETER HEAD.
- PROVIDE VERTICAL CONTROL JOINTS IN MASONRY WALLS AT LOCATIONS NOTED ON PLANS. HORIZONTAL BOND BEAM AND LINTEL REINFORCING SHALL BE CONTINUOUS ACROSS VERTICAL CONTROL JOINTS. JOINT REINFORCING SHALL BE STOPPED EITHER SIDE OF VERTICAL CONTROL JOINTS.
- MORTAR SHALL MEET THE PROPORTION SPECIFICATIONS OF ASTM C270 TYPE "S" MORTAR. MASONRY CEMENT SHALL NOT BE USED FOR MORTAR.
- MASONRY REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
- CONTINUOUS WIRE REINFORCING (JOINT REINFORCING) SHALL BE GALVANIZED TRUSS OR LANT TYPE FORMED FROM 9 GAUGE COLD-DRAWN STEEL WIRE COMPLYING WITH ASTM A82. JOINT REINFORCING SHALL BE SPACED AT 16" O.C. VERTICALLY IN ALL MASONRY WALLS.
- ALL REINFORCED CELLS AND ALL CELLS BELOW THE FINISHED FLOOR ELEVATION SHALL BE GROUTED. SOLID CONCRETE MASONRY BELOW FINISHED FLOOR SHALL BE NORMAL WEIGHT UNITS. CONCRETE MASONRY UNITS ABOVE FINISHED FLOOR SHALL BE LIGHT WEIGHT OR NORMAL WEIGHT UNITS.
- GROUTING SHALL BE STOPPED 1/2" BELOW THE TOP OF A COURSE SO AS TO FORM A KEY AT THE POUR JOINT.
- GROUTING OF MASONRY BEAMS AND LINTELS OVER OPENINGS SHALL BE DONE IN ONE CONTINUOUS OPERATION.
- ALL BOLTS, ANCHORS, ETC., INSERTED IN THE WALLS, SHALL BE GROUDED SO AS TO POSITION COORDINATE LOCATIONS OF EMBEDDED STEEL ITEMS FOR OVERHEAD DOORS WITH DOOR MANUFACTURER.
- ALL REINFORCING LAP SPLICES SHALL BE PER THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE.

MASONRY REINFORCING LAP SPLICE SCHEDULE

BAR SIZE	SPLICE LENGTH (IN)
#3	20
#4	24
#5	29
#6	35
#7	45

USE OF THROUGH TYPE BLOCKS FOR BOND BEAMS. DO NOT USE THROUGH TYPE BLOCKS FOR BOND BEAMS.

STRUCTURAL STEEL

- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING GRADES:

ALL CHANNELS, ANGLES, PLATES, ETC. (U.N.O.)	A36 (F = 36 KSI)
ALL WIDE FLANGES (U.N.O.)	A502 (F = 50 KSI)
HOLLOW STRUCTURAL SECTIONS (SHAPED)	A500 GRADE B (F = 46 KSI)
HOLLOW STRUCTURAL SECTIONS (ROUND)	A500 GRADE B (F = 42 KSI)
STEEL PIPE	A53 GRADE B (F = 35 KSI)
BOLTS	A325 (U.N.O.)
ANCHOR RODS	F1554 (GRADE 36)
WELDING ELECTRODES	E70XX, LOW HYDROGEN
- ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE, EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
- ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY "STRUCTURAL WELDING CODE" AWS D1.1. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS. ALL WELDING SHALL BE TO CLEAN BARE STEEL.
- SPLICING OF STEEL MEMBERS, UNLESS SHOWN ON THE DRAWINGS, IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER-OF-RECORD.
- PROVIDE SUB-FRAMING FOR EQUIPMENT SUPPORTED ON OR SUSPENDED FROM THE STRUCTURE. ALL SHALL BE SHOP COATED WITH PRIME PAINT AS SPECIFIED. MASK SURFACES TO BE WELDED AND AT FOLD HOLES IN FAYING SURFACES OF FRICTION CONNECTIONS.
- PROVIDE 15x14 (LVL) BELT-FABRICATED FRAME BETWEEN JOISTS AT OPENINGS IN ROOF GREATER THAN 10' 0" UNO, INCLUDING ROOF DRAIN AND EXHAUST FAN OPENINGS REGARDLESS OF OPENING SIZE.

COLD-FORMED STEEL

- ALL GALVZING BASED ON STEEL STUD MANUFACTURERS ASSOCIATION (ICBO ER-4943P) PRODUCT TECHNICAL INFORMATION.
- ALL GALVANIZED STUDS AND JOISTS 12, 14 AND 16 GAUGE SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF ASTM A653 SS, GRADE 50, CLASS 1 OR 3 WITH A MINIMUM YIELD OF 50,000 PSI.
- ALL GALVANIZED 18 AND 20 GAUGE STUDS AND JOISTS ALL GALVANIZED TRACK, BRIDGING, END CLOSURES AND ACCESSORIES SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE REQUIREMENTS OF ASTM A653 SS, GRADE 33 WITH A MINIMUM YIELD OF 33,000 PSI.
- ALL GALVANIZED STUDS, JOISTS, TRACK, BRIDGING AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A653.
- THE PHYSICAL AND STRUCTURAL PROPERTIES LISTED BY THE STEEL STUD MANUFACTURER ASSOCIATION AND AISI DESIGN MANUAL SHALL BE CONSIDERED THE MINIMUM PERMITTED FOR ALL FRAMING MEMBERS. SPECIFICALLY, THE FOLLOWING MINIMUM PROPERTIES, CALCULATED IN ACCORDANCE WITH THE LATEST AISI SPECIFICATION SHALL BE PROVIDED: I (IN 4), S_x (IN 3), AREA (IN 2), R_x (IN 1), F_y (KSI), RESISTING MOMENT (IN-LB).
- ANY SUBSTITUTIONS MUST BE APPROVED IN WRITING PRIOR TO DELIVERY, BY THE ARCHITECT AND/OR ENGINEER OF RECORD.
- INSTALLATION OF STUDS SHALL BE AS PER ASTM C1007-04 "INSTALLATION OF LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS AND ACCESSORIES", ASTM C958-06 "SPECIFICATION FOR LOAD BEARING (TRANSVERSE AND AXIAL) STEEL STUDS, RUNNERS, TRACK, AND BRACING OR BRIDGING FOR SCREW APPLICATION OF GYPSUM BOARD AND METAL PLASTER BASES", AND ASTM C754-04 "SPECIFICATION FOR INSTALLATION OF STEEL FRAMING MEMBERS TO RECEIVE SCREW ATTACHED GYPSUM BOARD".
- ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS, OR AS REQUIRED FOR AN ANGULAR FIT AGAINST BUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
- ALL TRACK BUTT JOINTS BUTTING PIECES OF TRACK SHALL BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, OR THEY SHALL BE BUTT WELDED OR SPLICED TOGETHER. ALL STUD BRIDGING SHALL BE ATTACHED IN A MANNER TO PREVENT STUD ROTATION. BRIDGING ROWS SHALL BE SPACED ACCORDING TO SUPPLIER'S RECOMMENDATIONS.
- TEMPORARY BRACING SHALL BE PROVIDED UNTIL ERECTION IS COMPLETE.
- STUD ENDS MUST BE SQUARELY SEATED AGAINST THE TRACK WEB. BOTH STUD FLANGES MUST BE ATTACHED TO TRACK MEMBERS AT TOP AND BOTTOM.
- STUD BRIDGING SHALL BE PROVIDED BY 1-1/2" COLD ROLLED U-CHANNEL. THE U-CHANNEL MUST BE ATTACHED TO EACH STUD BY WELDING OR ATTACHING WITH CLIP ANGLES AND SCREWS. HORIZONTAL STRAPPING AND SOLID BRIDGING WITH TRACK MEMBERS CAN ALSO BE USED FOR BRIDGING. BRIDGING SHALL BE SPACED AT 4' O.C. MAXIMUM.
- THE FOLLOWING MINIMUM COLD FORMED STEEL ATTACHMENTS SHALL BE PROVIDED: (N.O.) TRACK TO STRUCTURAL STEEL: (1) 145° POWDER DRIVEN FASTENER A10. TRACK TO METAL DECK: (1) #10 TEK SCREW AT 16" O.C. TRACK TO CONCRETE: (1) 145° POWDER DRIVEN FASTENER A10. STUD TO STRUCTURAL STEEL: (1) L2x2x1/4 GAUGE CLIP ANGLE CONNECTED WITH (2) #10 TEK SCREWS TO METAL STUD AND (2) 145° POWDER DRIVEN FASTENERS INTO STRUCTURAL STEEL. TRACK TO STUD: (2) #10 TEK SCREWS. STUD TO STUD: (2) #10 TEK SCREWS.
- BRICK TIES SHALL CONSIST OF "DUR-O-WALL" DIA #10 AND DIA #8 SERIES W/ DIA 700 SERIES TRIANGLE TIES AT 16" O.C. HORIZONTAL AND VERTICALLY.

MISCELLANEOUS

- THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- THE STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH AN ARCHITECTURAL AND MECHANICAL DRAWING CONTRACTOR IS RESPONSIBLE FOR COORDINATING REQUIREMENTS FROM SUCH DRAWINGS INTO THEIR SHOP DRAWINGS AND WORK.
- NO OPERATIONS SHALL BE PERFORMED ON A STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER-OF-RECORD.
- NO CHANGE IN MEMBER DIMENSIONS OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER-OF-RECORD.
- DO NOT SCALE THE DRAWINGS. USE SPECIFIED DIMENSIONS.
- STEEL FRAMING IS NOT TO BE USED FOR SUPPORTING AND REQUIRES INTERACTION WITH OTHER ELEMENTS NOT CLASSIFIED AS STRUCTURAL STEEL. TO PROVIDE THE REQUIRED STABILITY AND RESISTANCE TO LATERAL FORCES.
- THE STEEL FRAMING AND ALL CONCRETE AND CMU WALLS SHALL BE TEMPORARILY BRACED UNTIL ALL STEEL BRACING, FLOOR AND ROOF DECKS, AND CONCRETE AND CMU WALLS HAVE BEEN INSTALLED AND ALL CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.

STEEL JOISTS AND JOIST GIRDERS

- HANGERS SUPPORTING MECHANICAL EQUIPMENT FROM JOIST CHORDS SHALL BE LOCATED WITHIN 3 INCHES OF JOIST PANEL POINTS OR JOIST SHALL BE REINFORCED PER JOIST REINFORCING DETAIL. HANGER LOADS GREATER THAN 100 POUNDS SHALL NOT BE ATTACHED TO THE EDGE OF CHORD ANGLES AND SHALL BE CENTERED ON JOIST CHORD.
- JOISTS AND JOIST GIRDERS SHALL RESIST THE NET UPLIFT PRESSURE ON ROOF SHOWN IN THE DESIGN LOADS.
- SPECIAL JOISTS AND JOIST GIRDERS THAT REQUIRE SPECIFIC ORIENTATION SHALL BE TAGGED AT ONE END. DEFINE LOCATION OF TAGGED END ON ERECTION DRAWINGS.
- DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN ADJACENT JOISTS WHENEVER BOTTOM CHORD HORIZONTAL BRIDGING IS DISCONTINUOUS.
- JOIST MANUFACTURER SHALL DESIGN THE COMPRESSION CHORD OF ALL JOISTS SUPPORTING ROOF TOP UNITS, SKY LIGHTS, AND OTHER STRUCTURES FOR AN UNBRACED LENGTH APPLICABLE TO THE CONDITIONS AT THE PROJECT WHERE THE UNBRACED LENGTH IS GREATER THAN THE SJJ MAXIMUM.

STEEL DECK

- ROOF DECK SHALL BE PAINTED TYPE "B" (WIDE RIB) THREE SPAN MIN (UNO ON FRAMING PLAN) AS SHOWN ON ROOF FRAMING PLAN. THE STEEL ROOF DECK IS REQUIRED TO ACT AS A DIAPHRAGM. REFER TO THE ROOF DIAPHRAGM CONNECTION DIAGRAM AND SCHEDULE FOR ATTACHMENT PATTERN OPTIONS.
- PROVIDE 2 LAYERS OF ROOF DECK WHERE SINGLE SPAN CONDITION EXISTS. MAKE DIAPHRAGM CONNECTIONS AFTER PLACEMENT OF BOTH LAYERS OF ROOF DECK.
- WHEN THE ROOF DECK IS WELDED, WELDING RODS SHALL BE E 6022.

SPECIAL INSPECTIONS

- THE OWNER WILL EMPLOY THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE REQUIRED SPECIAL INSPECTION ITEMS.
- THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN OF THE STRUCTURE. FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
 - THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOTIFY, MODIFY, ENLARGE OR WAIVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
 - THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE PROFESSIONAL OF-RECORD, AND THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTIVE ACTION. IF UNCORRECTED, SUBMIT A COMPLETE LIST OF ALL OUTSTANDING DISCREPANCIES ON A WEEKLY BASIS TO THE OWNER, THE BUILDING OFFICIAL, AND THE PROFESSIONAL OF-RECORD. ALL CORRECTIVE WORKMANSHIP PROVISIONS OF THE BUILDING CODE.
 - SPECIAL INSPECTIONS SHALL BE REQUIRED FOR THE FOLLOWING GENERAL AREAS. REFERENCE THE FOLLOWING TABLE FOR MORE DETAILED INSPECTION REQUIREMENTS FOR EACH AREA:
 - INSPECTION OF FABRICATORS: PER IRC SECTION 1704.2.
 - STEEL CONNECTION: PER IRC SECTION 1704.3 AND IRC TABLE 1704.3.
 - CONCRETE: PER IRC SECTION 1704.4 AND IRC TABLE 1704.4.
 - MASONRY CONSTRUCTION: PER IRC SECTION 1704.5 AND IRC TABLE 1704.5.1.
 - SOILS: PER SECTION 1704.7 AND THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
- STRUCTURAL OBSERVATION (AS DEFINED IN CHAPTER 17 OF THE BUILDING CODE) IS NOT REQUIRED, UNLESS SPECIFICALLY REQUIRED BY THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS SCHEDULE

SPECIAL INSPECTION	FREQ.	REFERENCED STANDARD(S)
SOILS:		
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	PERIODIC	IBC 1705
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONT.	
5. PRIOR TO THE PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	

CONCRETE (NOT APPLICABLE TO ISOLATED SPREAD FOOTINGS OR NON-STRUCTURAL SLABS ON GROUND):

1. INSPECTION OF REINFORCING STEEL, SIZE AND PLACEMENT	PERIODIC	ACI 318: 3.5, 7.1-7.7
2. VERIFYING USE OF REQUIRED DESIGN MIX	PERIODIC	ACI 318: Ch. 4, 5.2-5.4
3. SAMPLING FRESH CONCRETE AND DETERMINING SLUMP, AIR CONTENT, AND TEMPERATURE OF FRESH CONCRETE AT THE TIME OF PLACING SPECIFIC FOR SITE WITH THE TIME OF CURING	CONT.	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8
4. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	CONT.	ACI 318: 5.9, 5.10
5. INSPECTION FOR IMPROVEMENT OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	PERIODIC	ACI 318: 5.11-5.13

STEEL CONSTRUCTION:

1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS, HIGH-STRENGTH BOLTING.	PERIODIC	APPLICABLE ASTM MATERIAL SPECIFICATIONS AISC 360, SEC. A3.4
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	PERIODIC	
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	PERIODIC	
2. INSPECTION OF BEARING-TYPE CONNECTIONS	PERIODIC	AISC LRFD Sec. M2.5
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD FORMED METAL DECK: <ol style="list-style-type: none"> FOR STRUCTURAL STEEL IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. FOR OTHER STEEL IDENTIFICATION MARKING TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. MANUFACTURER'S CERTIFIED MILL TEST REPORTS REQUIRED 	---	AISC 360, SEC. M5.5 ASTM A-6 GR ASTM A-668 APPLICABLE ASTM MATERIAL STANDARDS
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS: <ol style="list-style-type: none"> IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED 	PERIODIC	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS
5. INSPECTION OF WELDING: <ol style="list-style-type: none"> SINGLE-PASS FILLET WELDS ≤ 5/16" ROOF DECK WELDS 	PERIODIC	AWS D1.1 AWS D1.3

MASONRY CONSTRUCTION

- AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:
 - PROPORTIONS OF SITE PREPARED MORTAR.
 - CONSTRUCTION OF MORTAR JOINTS.
 - LOCATION OF REINFORCEMENT AND CONNECTORS.
 - VERIFICATION OF f_m.
- DURING CONSTRUCTION THE INSPECTION PROGRAM SHALL VERIFY:
 - SIZE AND LOCATION OF STRUCTURAL ELEMENTS.
 - TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION.
 - SPECIFIED SIZE, GRADE, AND TYPE OF REINFORCEMENT AND ANCHOR BOLTS.
 - PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40° F) OR HOT WEATHER (TEMPERATURE ABOVE 90° F).
- PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:
 - GROUT SPACE IS CLEAN.
 - PLACEMENT OF REINFORCEMENT AND CONNECTORS.
 - PROPORTIONS OF SITE PREPARED GROUT.
 - CONSTRUCTION OF MORTAR JOINTS.
- GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS.
- PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS SHALL BE OBSERVED.
- COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.

ADHESIVE ANCHORS/REINFORCEMENT:

- DURING PLACEMENT OF ADHESIVE ANCHORS OR REINFORCEMENT EMBEDDED WITH ADHESIVE (AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS) IN MASONRY AND CONCRETE:

A. SIZE AND EMBEDMENT OF ANCHORS/REINFORCING	CONTINUOUS	MANUFACTURERS INSTALLATION INSTRUCTIONS
B. ANCHORS/REINFORCEMENT INSTALLED PER MANUFACTURERS RECOMMENDATIONS	CONTINUOUS	

Firestone COMPLETE AUTO CARE

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NEW FCAC STORE
2015 - JUNE-ER - RIGHT
1900 RICHMOND ROAD
WILLIAMSBURG, VA

ISSUE BLOCK

NO.	DESCRIPTION	DATE

PROPERTY NO.:	167739
6 DIGIT NO.:	785533
4 DIGIT NO.:	6868
AOR PROJECT NUMBER:	1655B14
TO PERMIT:	DATE: 08/10/17
TO BID:	DATE: TBD
DRAWN BY:	JRR
CHECKED BY:	MGJTJ
SHEET TITLE:	GENERAL NOTES
SHEET NUMBER:	S1

