

### CODES AND STANDARDS

ALL WORK SHALL CONFORM TO THE FOLLOWING CODES AND STANDARDS. USE THE LATEST EDITION UNLESS NOTED OTHERWISE.

- INTERNATIONAL BUILDING CODE - 2018.
- "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" - ASCE 7-16.
- "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318-14.
- "ACI MANUAL OF CONCRETE PRACTICE" - PARTS 1 THROUGH 5 - LATEST EDITION.
- "STEEL CONSTRUCTION MANUAL" - FOURTEENTH EDITION
- "STRUCTURAL WELDING CODE ANSIIAWS D.1.1-2010", LATEST EDITION. AMERICAN WELDING SOCIETY.
- "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", ACI 530-13.
- "NATIONAL DESIGN STANDARD FOR WOOD CONSTRUCTION", NDS 2015.

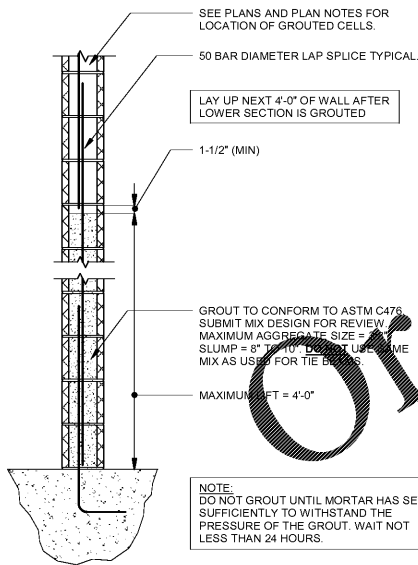
### GENERAL CONDITIONS

- IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT MUST GOVERN.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE CONSTRUCTION SITE.
- THE GENERAL CONTRACTOR SHALL REVIEW AND DETERMINE THAT DIMENSIONS ARE COORDINATED BETWEEN ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO FABRICATION OR START OF CONSTRUCTION.
- THE OWNER WILL ENGAGE AN APPROVED TESTING AGENCY TO PROVIDE SERVICES AS INDICATED BELOW. SUBMIT REPORTS TO STRUCTURAL ENGINEER AND ARCHITECT.
  - TEST CONCRETE IN ACCORDANCE WITH ASTM C172 AND C31. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
  - TEST SOIL COMPACTION PER LATEST GEOTECHNICAL REPORT. (U.N.O.)
  - VISUALLY INSPECT FIELD WELDS, BOLTED CONNECTIONS AND OTHER STRUCTURAL STEEL CONNECTIONS.

### FOUNDATION NOTES

- WE HAVE ASSUMED THE ALLOWABLE BEARING PRESSURE IS 2000 PSF.
- ALL REQUIREMENTS FOR SITE PREPARATION AND SOIL COMPACTION SPECIFIED IN THE SOILS REPORT SHALL BE FOLLOWED UNLESS ADDITIONAL MORE STRINGENT REQUIREMENTS ARE SPECIFIED. ALL SOIL BELOW FOUNDATIONS AND SLAB ON GRADE SHALL BE COMPACTED TO MINIMUM 95% MODIFY PROCTOR. A CERTIFIED TESTING AGENCY SHALL PERFORM SOIL DENSITY TESTS TO ENSURE CONFORMANCE WITH THE GEOTECHNICAL REPORT. SUBMIT ALL TEST RESULTS TO THE PROJECT ARCHITECT AND ENGINEER.
- CONTRACTOR IN CONJUNCTION WITH PROJECT GEOTECHNICAL ENGINEER SHALL VERIFY EXISTING FIELD CONDITIONS DURING EXCAVATION THAT MAY AFFECT THE ALLOWABLE BEARING PRESSURE AND OR THE INSTALLATION OF THE FOUNDATION SYSTEM PRIOR TO STARTING WORK.
- ALL FOOTINGS SHALL BE CENTERED UNDER THE COLUMN OR WALL ABOVE UNLESS NOTED OTHERWISE.
- CONCRETE FOR THE SLAB ON GRADE AND FOUNDATIONS SHALL BE PLACED WITHIN 24 HOURS OF THE SUB GRADE APPROVAL BY THE PROJECT GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE.

DESIGN LOADS	
WIND LOAD	
BASIC WIND SPEED (3 SEC. GUST)	105 MPH
BUILDING CATEGORY	I
EXPOSURE	C OPEN
INTERNAL PRESSURE COEFFICIENT	0.00



TYPICAL LOW LIFT GROUTING SECTION

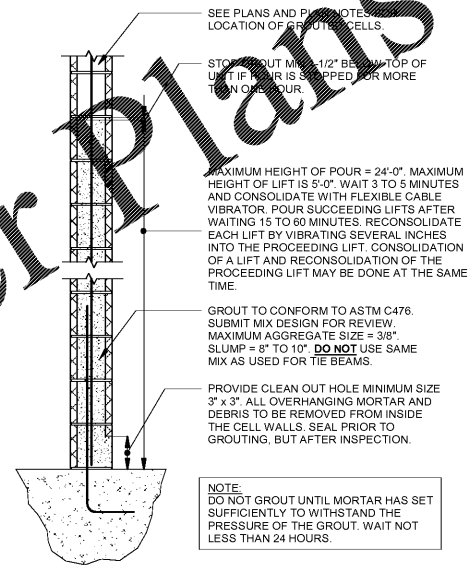
1 LA4.00 N.T.S.

### CAST-IN-PLACE CONCRETE NOTES

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 318 LATEST EDITION, AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS," ACI 301, LATEST EDITION.
- ALL CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:
 

PLACEMENT	MINIMUM STRENGTH	MAX W/C RATIO
SLAB ON GRADE / FOUNDATION	4000 PSI (U.N.O.)	0.55 (U.N.O.)
OTHER	4000 PSI	0.55
- ALL CONCRETE SHALL HAVE A SLUMP OF 4" PLUS OR MINUS 1", AND HAVE 2 TO 4% AIR ENTRAINMENT. CONCRETE PLACED WITH A PUMP SHALL HAVE A SLUMP OF 5" PLUS OR MINUS 1". BUILDER MAY ELECT TO PROVIDE AN ALTERNATE MIX DESIGN WITH HIGH RANGE WATER REDUCER WITH A HIGHER SLUMP. SUBMIT ALTERNATE MIX DESIGN FOR REVIEW.
- CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 CHAPTER 3, METHOD 1 OR METHOD 2. SUBMIT BACKUP DATA AS REQUIRED BY THE LATEST EDITION OF ACI 318.
- PLACING CONCRETE:
  - PLACE CONCRETE IN COMPLIANCE WITH ACI 304 AND AS HEREIN SPECIFIED.
  - BEFORE PLACING ANY CONCRETE IN FORMWORK, THOROUGHLY CLEAN AND WASH-OUT FORMS WITH WATER.
  - IF EARTH AT BOTTOM OF FORMS HAS DRIED-OUT, RE-WET SO THAT SOIL IS MOIST, BUT FREE FROM STANDING WATER AND MUD.
  - THOROUGHLY WET WOOD FORMS IMMEDIATELY BEFORE PLACING CONCRETE WHERE FORM COATINGS ARE NOT USED.
  - CONVEY CONCRETE FROM MIXER TO FINAL POSITION BY METHODS WHICH WILL PREVENT SEPARATION OR LOSS OF MATERIALS.
  - MAXIMUM HEIGHT OF CONCRETE FREE FALL IS 4 FT.
  - REGULATE RATE OF PLACEMENT SO CONCRETE SURFACE IS KEPT LEVEL THROUGHOUT, A MINIMUM BEING PERMITTED TO FLOW FROM ONE AREA TO ANOTHER. USE TREMIE HEADS SPACED AT APPROXIMATELY 10 FT. INTERVALS FOR PLACING CONCRETE IN WALLS. CONTROL RATE OF POUR CONSISTENT WITH FORM DESIGN.
  - DEPOSIT CONCRETE IN CONTINUOUS OPERATION UNTIL SECTION BEING PLACED HAS BEEN COMPLETED.
- ALL REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A - 615 GRADE 60.
- ALL REINFORCING DETAILS SHALL CONFORM TO "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" ACI 315 LATEST EDITION, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS.
- CONTRACTOR SHALL REVIEW ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF EMBEDDED ITEMS, SLEEVES, SLAB DEPRESSIONS, SLOPES, ETC. REQUIRED BY OTHER TRADES. THESE ITEMS SHALL BE FURNISHED AND INSTALLED PRIOR TO PLACEMENT OF CONCRETE. COORDINATE BEARING CONDITIONS REQUIRED BY PRECAST CONCRETE WALL PANEL BEFORE PLACING CONCRETE.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL OPENINGS, SLEEVES, ANCHOR BOLTS, INSERTS, ETC. AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED.
- WHERE BAR LENGTHS ARE GIVEN ON THE DRAWINGS, THE LENGTH OF ANY HOOK, IF REQUIRED, IS NOT INCLUDED. HOOKS SHALL BE PROVIDED AT DISCONTINUOUS ENDS OF ALL TOP BARS OF BEAMS AND AT SLAB EDGES.
- CONTRACTOR SHALL PROVIDE SPACERS, CHAIRS, BOLSTERS, ETC. NECESSARY TO SUPPORT REINFORCING STEEL. SUPPORT ITEMS WHICH BEAR ON EXPOSED CONCRETE SURFACES SHALL HAVE ENDS WHICH ARE PLASTIC TIPPED OR STAINLESS STEEL.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
 

3"	CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.
1 1/2"	INTERIOR BEAMS AND COLUMNS U.N.O.
2"	EXTERIOR BEAM, WALLS AND COLUMNS
3/4"	INTERIOR FLAT SLABS
1 1/4"	EXTERIOR FLAT SLABS
- TESTING LABORATORY SHALL SUBMIT ONE COPY OF ALL CONCRETE TEST REPORTS DAILY TO THE ENGINEER.



TYPICAL HIGH LIFT GROUTING SECTION

2 LA4.00 N.T.S.

### MASONRY NOTES

- HOLLOW LOAD BEARING UNITS SHALL BE NORMAL WEIGHT, GRADE N, TYPE 2, CONFORMING TO ASTM C90, WITH A MINIMUM NET COMPRESSIVE STRENGTH OF 2000 PSI ( $f_m = 1500$  PSI).
- MORTAR SHALL BE TYPE M OR S, CONFORMING TO ASTM C270.
- COARSE GROUT SHALL CONFORM TO ASTM C476 WITH A MAXIMUM AGGREGATE SIZE OF 3/8". A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AND A SLUMP BETWEEN 8" TO 11". JOB SITE MIXING OF GROUT SHALL NOT BE PERMITTED. DO NOT USE MIX DESIGNS OTHER THAN THE GROUT MIX APPROVED FOR THE MASONRY CONSTRUCTION.
- VERTICAL REINFORCEMENT SHALL BE AS NOTED ON THE DRAWINGS WITH CELLS FILLED WITH COARSE GROUT.
- VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT THE TOP AND BOTTOM AND AT A MAXIMUM SPACING OF 10" OR 192 x BAR DIAMETER WHICHEVER IS LESS. REINFORCEMENT SHALL BE PLACED AT THE CENTER OF THE MASONRY CELL TYPICAL UNLESS OTHERWISE NOTED. SEE TYPICAL GROUTING DETAILS FOR ADDITIONAL INFORMATION.
- REINFORCING STEEL SHALL BE LAPPED A MINIMUM 50 BAR DIAMETERS. EXTEND ALL VERTICAL REINFORCEMENT TO WITHIN 2" OF TOP OF WALL OR COLUMN UNLESS NOTED OTHERWISE.
- HORIZONTAL WALL REINFORCEMENT SHALL BE STANDARD LADDER TYPE DUR-O-WAL (ASTM A-82 #9 GAGE WIRE) AT 16" O.C., UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
- SPliced WIRE REINFORCEMENT SHALL BE LAPPED AT LEAST 6" AND CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT WITHIN THE 6" LAP WITH STANDARD 'T' AND 'L' SHAPED PIECES AT INTERSECTIONS AND CORNERS.
- WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL CORE, IT SHALL NOT BE SLOPED MORE THAN ONE HORIZONTAL IN SIX VERTICALS. DOWELS SHALL BE GROUTED INTO A CORE IN VERTICAL ALIGNMENT, EVEN THOUGH IT IS IN AN ADJACENT CELL TO THE VERTICAL WALL REINFORCEMENT.
- PROVIDE PRECAST CONCRETE LINTELS OVER ALL OPENINGS UNLESS NOTED OTHERWISE ON DRAWINGS. LINTELS SHALL BE OF SUFFICIENT SIZE AND REINFORCEMENT FOR THE GIVEN SPANS AND LOADING CONDITIONS.
- PROVIDE A FULLY GROUTED KNOCK OUT BLOCK OR U-BLOCK REINFORCED WITH (1) #5 CONTINUOUS AT THE TOP OF ALL WALLS UNLESS NOTED OTHERWISE.
- MORTAR PLACEMENT:
  - USE BED JOINT BETWEEN 1/4" AND 3/4" THICK AT FOUNDATIONS.
  - USE 3/8" THICK JOINTS BETWEEN UNITS.
  - TOOL ALL JOINTS WITH A ROUND JOINTER WHEN THE MORTAR IS THUMBPRINT HARD UNLESS OTHERWISE REQUIRED BY THE CONTRACT DOCUMENTS.
  - PLACE MORTAR ON CLEAN UNITS WHILE THE MORTAR IS SOFT AND PLASTIC.
  - DO NOT DISTURB THE UNIT AFTER IT IS INITIALLY POSITIONED.
  - PLACE MORTAR SO THAT ALL JOINTS OF SOLID UNITS ARE FULLY FILLED WITH MORTAR.
  - FILL THE BED AND HEAD JOINTS OF HOLLOW UNITS WITH MORTAR, SPREAD ACROSS THE WIDTH OF THE FACE SHELL.
  - MORTAR CROSS WEBS IN HOLLOW UNITS FOR THE FOLLOWING SITUATIONS:
    - ADJACENT TO CELLS TO BE GROUTED FOR PARTIALLY GROUTED CONSTRUCTION.
    - STARTING COURSE ON FOUNDATIONS AND OTHER SUPPORTS.
    - WELLS, COLLARS AND PLASTERS THAT ARE TO BE FULLY FILLED WITH GROUT.
  - REMOVE PROTRUSIONS OF MORTAR INTO COLLAR JOINTS CAVITIES AND CELLS OF HOLLOW UNITS IF THEY PROTRUDE MORE THAN 1/2".
  - DO NOT SLUSH MORTAR INTO HEAD JOINTS.
  - DO NOT BRUSH IN THE MORTAR.
  - PROVIDE ADEQUATE BRACING AND SUPPORT OF MASONRY UNTIL PERMANENT CONSTRUCTION IS IN PLACE.

### SHOP DRAWINGS

- FOLLOW THE ARCHITECT'S INSTRUCTIONS FOR DISTRIBUTION OF SHOP DRAWINGS.
- COMPLETE SHOP DRAWINGS SHALL BE SUBMITTED IN WHOLE FOR EACH OF THE FOLLOWING CATEGORIES:
  - REINFORCING STEEL AND OTHER CONCRETE REINFORCEMENT
  - CONCRETE MIX DESIGN
  - MASONRY AND PRECAST LINTELS
  - ALUMINUM AND MISC STEEL
  - MISCELLANEOUS
- DETAILER SHALL BE RESPONSIBLE FOR CHECKING ALL ARCHITECTURAL AND MECHANICAL DRAWINGS FOR OPENINGS AND EMBEDS, AFFECTING STRUCTURAL MEMBERS.
- SHOP DRAWINGS SHALL BEAR THE INITIALS OF THE DETAILER'S CHECKER AND BE APPROVED BY THE CONTRACTOR BEFORE SUBMITTAL TO ENGINEER.
- THE USE OF REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN CONNECTION WITH THE PREPARATION OF SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING OUT OF ANY ERRORS THAT MAY OCCUR HEREON.
- IF REPRODUCTIONS OF THESE CONTRACT DRAWINGS ARE USED IN CONNECTION WITH THE PREPARATION OF SHOP DRAWINGS, THE ARCHITECT'S, ENGINEER'S OR OTHER DESIGN CONSULTANT'S TITLE BLOCK SHALL BE REMOVED AND REPLACED WITH A TITLE BLOCK LISTING THE FOLLOWING ITEMS:
  - NAME, ADDRESS, AND TELEPHONE NUMBER OF CONTRACTOR, SUBCONTRACTOR, ETC. SUBMITTING SHOP DRAWING.
  - SHEET NUMBER.
  - DATE DRAWING PREPARED, INITIAL OF PERSON WHO PREPARED DRAWINGS, AND INITIAL OF PERSON CHECKING DRAWINGS.
- ANY REPRODUCTION OF THESE CONTRACT DRAWINGS NOT COMPLYING WITH THE ABOVE WILL BE REJECTED AND NOT REVIEWED.

### WOOD CONSTRUCTION NOTES

- WOOD CONSTRUCTION SHALL CONFORM TO THE NFPA "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", LATEST EDITION.
- ALL LUMBER AND MISCELLANEOUS WOOD SHALL BE SOUTHERN PINE, NO. 2 GRADE WITH  $e = 1,600,000$  PSI AND MC = 19%.
- KILN DRIED IN STANDARD NOMINAL SIZES, UNLESS NOTED OTHERWISE.
- ALL WOOD IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.
- ROOF SHEATHING SHALL BE 23/32" CD-X APA PLYWOOD (3/4" NOMINAL) NAILED WITH 10d NAILS AT 6" O.C. AT PANEL EDGES, AND 10d NAILS AT 12" O.C. AT INTERMEDIATE SUPPORTS. PROVIDE 10d NAILS AT 4" O.C. WITHIN 4'-0" OF PERIMETER ROOF EDGE. PROVIDE ONE PLYWOOD CLIP PER SPAN BETWEEN SHEET EDGES. PROVIDE SOLID 2x BLOCKING BETWEEN SUPPORTS AT ALL HIPPS, RIDGES, VALLEYS, AND CHANGES IN ROOF SLOPE.
- ALL LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED GRADING AGENCY.

FASTENER SUBSTITUTIONS:	
ALL NAILS ARE COMMON NAILS, UNLESS NOTED OTHERWISE. THE FOLLOWING FASTENERS ARE ACCEPTABLE SUBSTITUTIONS. THE ALTERNATE FASTENERS SHALL BE SPACED AT THE SAME SPACING AS THE SCHEDULED FASTENER.	
SCHEDULED FASTENER	ALTERNATE FASTENER
8d COMMON NAIL	8d RING SHANK NAIL 8d SCREW SHANK NAIL 0.131 P-NAIL
10d COMMON NAIL	10d RING SHANK NAIL 10d SCREW SHANK NAIL 0.148 P-NAIL

LAP SPLICE SCHEDULE						
LOCATION	BAR SIZE					
CONCRETE	#3	#4	#5	#6	#7	#8
FOUNDATION WALL REINFORCEMENT	19"	29"	36"	43"	-	-
FOOTING REINFORCEMENT	19"	29"	36"	43"	-	-
SLAB ON GRADE REINFORCEMENT	22"	29"	36"	-	-	-

NOTE: LAPS ARE BASED ON 4000 PSI (MIN) CONCRETE STRENGTH WITH CLASS "B" LAP SPLICE.

**McElroy Engineering**  
STRUCTURAL DESIGN GROUP  
1836 EDGEWATER DRIVE ORLANDO, FL 32804  
P: 407.245.8775 | F: 407.245.8744 | www.mcelroyeng.com

PROFESSIONAL ENGINEER 4419-15  
Certificate of Authorization 8822

"TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 63B.09 AND CHAPTER 63C."

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STATE OF KENTUCKY  
CRAIG MCELROY  
34706  
PROFESSIONAL ENGINEER

06/04/2019

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Drawn by:	PDM
Reviewed by:	CEM
Job Number:	21889-1
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LYRIC AT NORTON COMMONS  
Prospect, Kentucky

Bristol Development Group  
380 Malvern Station Rd., #304, Franklin, TN 3704

DIXIE  
PARTNERS  
166 W. JESSUP AVENUE  
LOUISVILLE, KY 40202  
TEL: 402.467.1777  
FAX: 402.467.1779

90% HARDSCAPE PLANS  
STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS

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