STRUCTURAL ABBREVIATIONS

ABOVE FINISHED FLOOR AND BOTT BOTTOM BOS **BOTTOM OF STEEL** BASE PLATE CAST-IN-PLACE

B-PL CIP **CENTERLINE** CONN. CONNECTION DIAMETER Ø , DIA DOWN

EXIST., (E) EXISTING (TO REMAIN)

EACH ELEV. **ELEVATION EACH WAY** FD FLOOR DRAIN **FLOOR** FL, FLR FT FOOT/FEET GALV. GALVANIZED GΑ GAUGE

HOLLOW WIRE FABRIC HSS KIPS PER SQUARE INCH LENGTH

L.L.F. LONG LEG HORIZONTAL L.L.V. LONG LEG VERTICAL

L.W. LONG WAY

MISCELLANEOUS CHANNEL MIN. MINIMUM MISCELLANEOUS **MISC** MPH MILES PER HOUR NIC NOT IN CONTRACT NTS NOT TO SCALE OC ON CENTER OD OUTSIDE DIAMETER OH OPPOSITE HAND

PLATE POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH SIM. SIMILAR

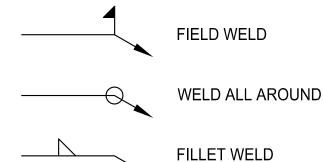
S.W. SHORT WAY TH. THICKNESS TOS TOP OF STEEL TYP

TYPICAL UNO UNLESS NOTED OTHERWISE VIF VERIFY IN FIELD

WITH W/O WITHOUT

WELDED WIRE FABRIC WWF

STRUCTURAL LEGEND



STRUCTURAL GENERAL NOTES

- 1. COORDINATE WITH ACCOMPANYING ARCHITECTURAL, MECHANICAL, ELECTRICAL AND OTHER CONTRACT DRAWINGS AS WELL AS APPROVED SHOP DRAWINGS FOR LOCATIONS OF SLEEVES, INSERTS, OPENINGS, AND FINISH ATTACHMENTS
- 2. ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS TO BE FIELD VERIFIED AND COORDINATED WITH THE OTHER CONTRACT DOCUMENTS. REPORT ANY INCONSISTENCIES PRIOR TO COMMENCING WORK
- 3. THE STRUCTURAL DESIGN IS BASED ON THE FULL INTERACTION OF ALL OF ITS COMPONENT PARTS. NO PROVISIONS HAVE BEEN MADE FOR CONDITIONS OCCURRING DURING CONSTRUCTION WHEN THE STRUCTURE IS IN AN INCOMPLETE OR PARTIALLY COMPLETE STATE. CONTRACTOR IS RESPONSIBLE FOR MAKING PROPER AND ADEQUATE ACCOMMODATIONS FOR STABILITY AND SAFETY DURING CONSTRUCTION
- 4. DETAILS SHOWN ARE TYPICAL FOR SIMILAR CONDITIONS, U.N.O.
- 5. CENTER WALLS AND PIERS ON FOOTINGS
- 6. STRUCTURAL TESTS AND INSPECTIONS REQUIRED ACCORDING TO IBC 2009 CH 17
- 7. STRUCTURE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2009 IBC CODE AND 2010 ASCE-7 LRFD METHODS
- 8. STRUCTURE MODIFICATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING LOADS(CONVENTIONAL LIGHT FRAME CONSTRUCTION):
 - RISK CATEGORY = I
 - ROOF GROUND SNOW LOAD Pg= 60 PSF
 - BASIC WIND SPEED(2 SECOND GUST) = 110 MPH
 - WIND EXPOSURE B

CONCRETE BLOCK MASONRY

- 1. ALL CONCRETE MASONRY UNITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1,900 PSI AND CONFORM TO THE REQUIREMENTS OF ASTM C90.
- 2. PROVIDE STANDARD TWO-CELL, 8" HIGH, 16" LONG BLOCKS. U-SHAPED LINTEL BLOCKS, OPEN-ENDED BLOCKS AND OPEN BOTTOM BOND BEAM (WEB KNOCK-OUT) BLOCKS ARE RECOMMENDED FOR EASE OF CONSTRUCTION TO COMPLETE THE WORK SPECIFIED HEREIN.
- 3. ALL CMU WALLS SHALL BE BUILT IN A RUNNING-BOND PATTERN.
- 4. MORTAR SHALL BE TYPE "S" HIGH STRENGTH MORTAR.
- 5. ALL GROUT SHALL BE COARSE GROUT CONFORMING WITH ASTM C476 AND SHALL HAVE A MINIMUM 26 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
- 6. GROUT SHALL BE PLACED USING LOW LIFT GROUTING PROCEDURE PER ACI.
- 7. MINIMUM VERTICAL REINFORCEMENT SHALL BE AS SHOWN ON PLANS.
- 8. MORTAR JOINTS IN ALL REINFORCED MASONRY WALLS SHALL HAVE MINIMUM #9 GAUGE WIRE LADDER-TYPE HORIZONTAL REINFORCEMENT AT 16" O.C. IN ADDITION, PROVIDE THE FOLLOWING REINFORCING:
 - A. (2)-#5 FULL HEIGHT VERTICAL BARS AT EACH SIDE OF WALL OPENINGS AND WALL ENDS.
 - B. (2)-#5 CONTINUOUS HORIZONTAL BARS AT 4'-8" MAXIMUM VERTICAL SPACING.
- C. OVER WALL OPENINGS UP TO 4'-0" WIDE: PROVIDE (2)-#5 HORIZONTAL BARS. WALL OPENINGS UP TO 8'-0" WIDE: PROVIDE TWO COURSES GROUTED SOLID WITH (2)-#5 BARS TOP AND BOTTOM. EXTEND BARS 4'-0" BEYOND EACH SIDE OF THE OPENING. OPENINGS UP TO 12'-0" WIDE: PROVIDE W12x50:16" LONGER THAN OPENING, W/8" SQUARE, 3/8" THICK BEARING PLATES AT EACH END OF OPENING.
- D. ALL REINFORCING BARS SHALL BE SECURELY HELD IN POSITION WITH 9 GAUGE WIRE SUPPORTS PRIOR TO GROUTING.
- E. ANY ADDITIONAL REINFORCEMENT SHOWN ON THE DRAWINGS.
- 9. LAP ALL REINFORCING BARS IN MASONRY THE LESSER OF 48 BAR DIAMETERS OR 24 INCHES. LAP HORIZONTAL WIRE REINFORCEMENT A MINIMUM OF 12 INCHES.
- 10. ALL MASONRY CONSTRUCTION WILL BE INDEPENDENTLY TESTED AND INSPECTED BY THE OWNER.

CAST IN PLACE CONCRETE NOTES

- 1. NORMAL WEIGHT CONCRETE STRENGTH:
 - a. FOOTINGS AND WALLS = 4000 PSI @ 28 DAYS
- b. PIERS = 4000 PSI.
- 2. AGGREGATE: 3/4" MAX STONE
- 3. MAXIMUM WATER-CEMENT MATERIALS RATIO=0.45
- 4. PROVIDE 6% AIR ENTRAINMENT PLUS OR MINUS 1.5% TO ALL CONCRETE EXPOSED TO EARTH OR WEATHER.
- 5. SLUMP LIMIT 4" PLUS OR MINUS 1".
- 6. PROVIDE DOWELS AND/OR KEYWAYS AT ALL CONSTRUCTION JOINTS.
- 7. PROVIDE 48 HOUR MIN BETWEEN PLACEMENTS.
- 8. ALL CONCRETE FORMWORK TO REMAIN IN PLACE 3 DAY MIN FOLLOWING **PLACEMENT**
- 9. ALL EXPOSED FLOOR SURFACES TO BE WET-CURED FOR 7-DAYS, FOLLOWED BY APPLICATION OF ACCEPTABLE FLOOR SEALER.
- 10. NOTIFY STRUCTURAL INSPECTOR AT LEAST 48 HOURS PRIOR TO PLACEMENT FOR INSPECTION
- 11. CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE THE LATEST VERSIONS OF ACI 301 AND 318.
- 12. CHAMFER EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE WHERE SPECIFIED ON THE DRAWINGS.
- 13. GROUT MIXTURES:
 - a. USE ONLY APPROVED PREPACKAGES NON-SHRINK GROUT.
 - b. USE ONLY A MINIMUM AMOUNT OF WATER TO PRODUCE A FLOWABLE GROUT.
 - c. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 7 DAYS AND 7500 PSI AT 28 DAYS.
- 17. DO NOT WET SET REINFORCEMENT OR ANCHOR RODS.

CONCRETE REINFORCEMENT NOTES

- 1. ALL REINFORCING BAR TO CONFORM TO ACI 318
- 2. SUBMIT REBAR SHOP DRAWINGS FOR APPROVAL
- 3. REINFORCING STEEL TO BE ASTM A615 GRADE 60 (60 KSI) DEFORMED
- 4. WHERE CONTINUOUS BARS ARE INDICATED, THEY SHALL RUN AROUND CORNERS AND DOWEL INTO INTERSECTING WALLS. THEY SHALL BE LAPPED AS INDICATED AND BE NO LESS THAN 40 BAR DIAMETERS.
- 5. REBAR CLEARANCES:
 - A. UNFORMED, EARTH CONTACT: 3"
 - B. FORMED, EARTH CONTACT: 2"
- C. FORMED, WEATHER EXPOSURE: 2"
- D. WIRE MESH: 1.5" FROM TOP SURFACE.
- 6. USE REBAR CHAIRS TO ACHIEVE REQUIRED CLEARANCES.
- 7. DO NOT CUT REINFORCING TO ACCOMMODATE INSTALLATION OF EMBEDDED ITEMS. CONTACT STRUCTURAL ENGINEER TO RESOLVE CONFLICTS.
- 8. COORDINATE INSTALLATION OF PIPES, CONDUITS, ETC. WITH MEP TRADES
- 9. COORDINATE MASONRY DOWELS WITH MASON FOR BLOCK LAYOUT.
- 10. FABRICATE STEEL REINFORCEMENT ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE".
- 11. DO NOT TACK WELD CROSSING REINFORCING BARS.

EXCAVATIONS

- 1. REMOVE ALL SOFT, ORGANIC AND OTHER UNSUITABLE MATERIAL FROM UNDER AND ADJACENT TO ALL FOOTINGS AND FROM UNDER ALL SLABS ON GRADE.
- 2. EXTEND AND SLOPE SIDES OF EXCAVATION TO ENSURE STABILITY AND SAFETY AT ALL TIMES.
- 3. SHORE, SHEET AND BRACE EXCAVATION AS REQUIRED TO ENSURE SAFETY AND STABILITY AT ALL TIMES.
- 4. PUMP EXCAVATION TO REMOVE SURFACE AND GROUND WATER TO PERMIT FINISHING OF EXCAVATION AND PLACEMENT OF FOUNDATIONS IN THE DRY.
- 5. ELEVATIONS GIVEN ARE MINIMUM IN DEPTH AND ARE NOT TO BE CONSTRUED AS LIMITING IN ANY WAY THE AMOUNT OF EXCAVATION REQUIRED TO REACH A SPECIFIED BEARING STRATA.

eco|

SIGNED COPY OF DRAWING ON FILE AT DIRIGO A/E OFFICE

GEND ATION

BBREVI

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SHEET NO.