

GENERAL STRUCTURAL NOTES

GENERAL

- THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS. CONTRACTOR SHALL COORDINATE THE WORK OF OTHER TRADES INCLUDING, BUT NOT LIMITED TO, THE REQUIREMENTS FOR SLEEVES, INSERTS, HOLES, HANGERS AND ANCHORS.
- CONTRACTOR SHALL REPORT DISCREPANCIES IN DIMENSIONS BETWEEN DIFFERENT DRAWINGS TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK IN AREAS THAT WILL BE AFFECTED.
- DETAILS ENTITLED OR NOTED AS "TYPICAL" APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION TO ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OR REFERENCED.
- ELEVATIONS ON THE STRUCTURAL DRAWINGS ARE DENOTED AS (+X'-X"), REFERENCED TO THE FINISHED FIRST FLOOR ELEVATION DATUM = ±0'-0". FOR ACTUAL FINISHED FIRST FLOOR ELEVATION (N.G.V.D.) REFER TO SURVEY.
- REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS UNDER ANY CIRCUMSTANCE.
- ALL ITEMS SHOWN IN THESE DRAWINGS ARE NEW CONSTRUCTION UNLESS SPECIFICALLY NOTED AS EXISTING.
- BEFORE BEGINNING ANY DEMOLITION WORK, THE CONTRACTOR SHALL SURVEY THE SITE AND EXAMINE THE DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF THE WORK.
- VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ETC., NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW WORK RELATIVE TO THE EXISTING STRUCTURE.
- TAKE ALL MEASUREMENTS NECESSARY FOR PROPER FABRICATION, ALIGNMENT, AND INSTALLATION OF STRUCTURAL MEMBERS AND COMPONENTS.
- THE CONTRACTOR IS RESPONSIBLE TO IDENTIFY THE LOCATIONS OF THIS TYPE OF CONDITION AND ITS QUANTITIES.
- WHERE EXISTING CONSTRUCTION THAT IS TO REMAIN IN PLACE, BE RE-USED, OR REMAIN, THE PROPERTY OF THE OWNER IS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION, REPLACE WITH NEW OR REPAIR TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH NEW OR REPAIR TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ADDITIONAL COSTS SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL ENSURE THAT STRUCTURAL ELEMENTS ARE NOT OVERLOADED AND SHALL BE RESPONSIBLE FOR INCREASING STRUCTURAL SUPPORTS OR ADDING NEW SUPPORTS AS MAY BE REQUIRED AS A RESULT OF ANY CUTTING, REMOVAL, OR DEMOLITION WORK PERFORMED UNDER THIS CONTRACT DOCUMENTS.
- ADDITIONAL REPAIRS, REINFORCEMENTS OR STRUCTURAL REPLACEMENTS SHALL BE APPROVED BY THE ENGINEER.
- IF ANY ERRORS OR OMISSIONS APPEAR IN THE DRAWINGS, SPECIFICATIONS, OR OTHER DOCUMENTS, THE CONTRACTOR MUST NOTIFY THE ARCHITECT AND ENGINEER, IN WRITING, OF THE SAME PRIOR TO PROCEEDING WITH THE WORK IN QUESTION IN THE EVENT THAT THE CONTRACTOR FAILS TO GIVE NOTICE, OR PROVIDE SUFFICIENT TIME FOR A RESPONSE, CONTRACTOR IS RESPONSIBLE FOR THE RESULTS OF SUCH ERRORS OR OMISSIONS, AND FOR ALL COSTS FOR RECTIFYING SAME AND FOR ANY DELAYS OR ANY OTHER COSTS INCURRED BY SAME. THE CONTRACTOR SHALL USE THE STRUCTURAL DRAWINGS TOGETHER WITH THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS TO LOCATE DEPRESSED SLABS, SLOPES, DRAINS, OUTLETS, RECESSES, OPENINGS, REGLETS, BOLT SETTINGS, SLEEVES, DIMENSIONS, EMBEDDED PLATES, ETC.

DESIGN CRITERIA:

STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING CODES AND SPECIFICATIONS: *

- 2023 FLORIDA BUILDING CODE (FBC), 8th EDITION.
- ACI 318-19, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- ASCE/SEI 7-22, MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES.
- TMS 402/602-16, BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES.
- AISC-2017, STEEL CONSTRUCTION MANUAL, 15th/16th EDITION.
- ANS/AISC 360-22, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
- AWS D1.1-D1.1M-2020, STRUCTURAL WELDING CODE - STEEL.
- ANS/AISC NDS-2021, NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2021 NDS SUPPLEMENT.

* IN THE EVENT OF CONFLICT BETWEEN PERTINENT CODES AND REGULATIONS AND THE REQUIREMENTS OF THE REFERENCED STANDARDS OF THESE SPECIFICATIONS, THE PROVISIONS OF THE MORE STRINGENT SHALL GOVERN.

DESIGN LOADS:

- LIVE LOADS: SEE FRAMING PLANS
- DEAD LOADS: SEE FRAMING PLANS
- WIND LOAD CRITERIA:

ULTIMATE WIND SPEED..... $V_{ult} = 175$ MPH
 NOMINAL WIND SPEED..... $V_{nd} = 136$ MPH
 WIND FACTOR.....0.6
 RISK CATEGORY.....II
 WIND EXPOSURE.....C
 INTERNAL PRESSURE COEFFICIENTS..... $G_{cpi} = \pm 0.18$

SITE PREPARATION NOTES:

- SITE PREPARATION AND COMPACTION SHALL BE FOLLOWED IN STRICT ADHERENCE TO THE GEOTECHNICAL ENGINEERING REPORT PROVIDED BY WINGERTER LABORATORIES, INC., ENGINEERING TESTING AND INSPECTION SERVICE, DATED SEPTEMBER 20, 2017.
- REMOVE ANY VEGETATION, TOPSOIL, AND ALL ORGANIC MATERIAL WITHIN BUILDING AREAS PLUS FIVE (5) FEET OUTSIDE THE BUILDING FOOTPRINT. THE AREA UNDER FOOTINGS, FOUNDATIONS, AND CONCRETE SLABS ON GRADE SHALL HAVE ALL VEGETATION, STUMPS, ROOTS, AND FOREIGN MATERIALS REMOVED PRIOR TO PLACEMENT OF FILL.
- THE CLEARED SURFACE AND EACH FILL LIFT SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 95 PERCENT. RELATIVE COMPACTION IS DEFINED AS THE RATIO, EXPRESSED AS A PERCENT, OF THE DRY SOIL DENSITY AS DETERMINED IN THE FIELD BY ASTM D 2922 (NUCLEAR METHOD) WITH A PROBE DEPTH OF 12-INCHES, DIVIDED BY THE MAXIMUM DRY SOIL DENSITY AS DETERMINED IN THE LABORATORY BY ASTM D 1557 ("MODIFIED PROCTOR"). COMPACTION SHALL BE VERIFIED BY THE GEOTECHNICAL INSPECTOR WHO SHALL ALSO CONFIRM THAT THE FILL MATERIAL BEING PLACED IS THE SAME MATERIAL AS TESTED IN THE LABORATORY. TO AVOID DELAY DURING COMPACTION OPERATIONS, CANDIDATE FILL MATERIAL SHOULD BE SUPPLIED TO THE GEOTECHNICAL INSPECTOR A MINIMUM 72 HOURS IN ADVANCE OF PLACEMENT.
- COMPACTION OF SUITABLE FILL AS DEFINED HEREIN IS MOST READILY ACHIEVED BY THE USE OF VIBRATORY ROLLERS WHEN SPACE ALLOWS. FOR SMALL RESTRICTED AREAS, MECHANICAL HAND-OPERATED TAMPERS USUALLY PERFORM SATISFACTORILY. PRIOR TO COMMENCING COMPACTION, THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADJUSTED TO WITHIN PLUS/MINUS 2 PERCENT OF THE OPTIMUM MOISTURE DETERMINED BY ASTM D 1557; BY SO WETTING OR DRYING THE FILL MATERIAL, THE AMOUNT OF COMPACTIVE ENERGY REQUIRED TO ATTAIN COMPACTION IS MINIMIZED. ATTEMPTING COMPACTION OF FILL MATERIAL WHICH IS MORE THAN PERCENT BELOW OR 3 PERCENT ABOVE OPTIMUM MOISTURE WILL GENERALLY YIELD UNSATISFACTORY RESULTS.
- A MINIMUM OF ONE IN-PLACE FIELD DENSITY TEST SHALL BE PERFORMED FOR EACH 2,500 SQUARE FEET, OR FRACTION THEREOF, FOR EACH LIFT OF COMPACTED SOIL FOR BUILDING PAD OR SLAB AREA.
- ALL FILL MATERIALS SHOULD BE FREE OF ORGANIC MATERIALS, SUCH AS ROOTS AND VEGETATION. GEOTECHNICAL REPORT RECOMMEND USING FILL WITH LESS THAN 10 PERCENT BY DRY WEIGHT OF MATERIAL PASSING THE U.S. STANDARD NO. 200 SIEVE SIZE.
- ALL STRUCTURAL FILL SHOULD BE PLACED IN LEVEL LIFTS NOT TO EXCEED 12 INCHES IN UNCOMPACTED THICKNESS. EACH LIFT SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY VALUE. THE FILLING AND COMPACTION OPERATIONS SHOULD CONTINUE IN LIFTS UNTIL THE DESIRED ELEVATION(S) IS ACHIEVED. IF HAND-HELD COMPACTION EQUIPMENT IS USED, THE LIFT THICKNESS SHOULD BE REDUCED TO NO MORE THAN 6 INCHES.
- VERIFY ALL DENSIFICATION PROCEDURES BY TAKING AN ADEQUATE NUMBER OF FIELD DENSITY TESTS IN EACH LAYER OF COMPACTED MATERIAL.
- REPRESENTATIVE SAMPLES OF THE ON-SITE AND PROPOSED FILL MATERIAL SHOULD BE COLLECTED AND TESTED TO DETERMINE THE CLASSIFICATION AND COMPACTION CHARACTERISTICS.
- ALL GEOTECHNICAL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE.
- AFTER THE INSTALLATION OF ANY PLUMBING AND ELECTRICAL PIPING, WE RECOMMEND THAT THE DISTURBED AREA BE RECOMPACTED AND ADDITIONAL DENSITY TESTS BE PERFORMED TO VERIFY PROPER COMPACTION OF THE DISTURBED AREAS.

FOUNDATION

- DESIGN OF FOOTINGS IS BASED ON THE GEOTECHNICAL ENGINEERING REPORT PROVIDED BY WINGERTER LABORATORIES, INC., ENGINEERING TESTING AND INSPECTION SERVICE, DATED SEPTEMBER 20, 2017.
- ALLOWABLE SOIL BEARING CAPACITY OF 2000 PSF WAS USED FOR THE DESIGN OF FOOTINGS.
- ALL FOOTING EXCAVATION AND COMPACTION SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER FOR THE BEARING CAPACITY INDICATED ABOVE PRIOR TO CONCRETE PLACEMENT.
- FOOTINGS SHALL BE FOUNDED ON WELL COMPACTED VIRGIN SOIL OR ON ENGINEERED FILL AT THE ELEVATIONS SHOWN.
- KEEP FOUNDATION EXCAVATIONS FREE OF WATER AT ALL TIMES. REPLACE SOFT OR WEAKENED SOIL WITH STRUCTURAL FILL.
- ELEVATIONS SHOWN AT FOOTINGS ARE TOP OF FOOTING ELEVATION (T.O.F.)
- ALL EXTERIOR FOOTINGS TO BEAR MINIMUM 2"-0" BELOW ADJACENT GRADE UNLESS OTHERWISE NOTED. ADJUST BOTTOM OF FOOTING AS REQUIRED.
- FOR CONTINUOUS WALL FOOTINGS, SPLICES IN REINFORCING BARS SHALL NOT BE LESS THAN (48) BAR DIAMETERS AND REINFORCEMENT SHALL BE CONTINUOUS AROUND ALL CORNERS AND CHANGES IN DIRECTION. CONTINUITY SHALL BE PROVIDED AT CORNERS OR CHANGES IN DIRECTION BY EXTENDING THE LONGITUDINAL STEEL AROUND THE CORNER (48) BAR DIAMETERS OR BY ADDING MATCHING REINFORCING STEEL, WHICH SHALL EXCEED (48) BAR DIAMETERS FROM EACH CORNER OR CHANGE IN DIRECTION. WHEN THREE OR MORE BARS ARE REQUIRED, THE BARS SHALL BE HELD IN PLACE AND ALIGNMENT BY TRANSVERSE BARS SPACED NOT MORE THAN (4) FEET APART.

SOIL COMPACTION

- COMPACTED SOIL IS TO PROVIDE A SATISFACTORY SUBGRADE FOR THE LOAD BEARING CONCRETE SLAB ON GRADE. BACKFILL MATERIAL SHALL BE GRAVELLY SOILS, WELL-GRADED SANDS, AND SAND-GRAVEL MIXTURES RELATIVELY FREE OF PLASTIC FINES AND CLASSIFIED AS SP, SW, SP-SM OR SW-SM.
- FILL AND BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12 INCHES IN LOOSE THICKNESS. EACH LIFT SHOULD BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY NEAR THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D-1557.

MASONRY CONSTRUCTION NOTES:

- DESIGN MASONRY ASSEMBLAGE STRENGTH, $f_m = 1500$ PSI. NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL BE A MINIMUM OF 2000 PSI.
- SPECIAL INSPECTION IS REQUIRED FOR THE REINFORCED MASONRY WALL.
- CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND BE MANUFACTURED WITH MEDIUM WEIGHT AGGREGATE.
- MORTAR SHALL CONFORM TO ASTM C 270 TYPE "M" (2500 PSI). GROUT FOR FILLED CELL SHALL CONFORM TO ASTM C476 AND SHALL NOT CONTAIN ADMIXTURES. GROUT SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI, SLUMP 9 IN.
- REINFORCEMENT SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 / A615M, GRADE 60 AND SHALL HAVE FABRICATION TOLERANCES IN ACCORDANCE WITH ACI 315. SHOP-FABRICATE REINFORCING BARS WHICH ARE INDICATED TO BE BENT OR HOOKED.
- MINIMUM No. 9 GAGE HORIZONTAL REINFORCEMENT AT 16" SPACING LADDER TYPE FOR REINFORCED WALL AND TRUSS TYPE FOR ALL OTHERS SHALL BE PROVIDED. THIS REINFORCING SHALL EXTEND 4 INCHES INTO THE COLUMNS OR BE TIED TO STRUCTURAL COLUMNS.
- ALUMINUM CONDUITS, PIPES, AND ACCESSORIES SHALL NOT BE EMBEDDED IN MASONRY GROUT, OR MORTAR, UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CEMENT CHEMICAL REACTION OR ELECTROLYTIC REACTION BETWEEN ALUMINUM AND STEEL.
- PROVIDE VERTICAL REBARS ACCORDING TO PLAN OR WALL SCHEDULE. SEE "TYPICAL WALL END AND CORNER DETAILS" FOR SPECIAL REINFORCING DETAIL.
- VERTICAL REINFORCEMENT MUST HAVE A MINIMUM 48 BAR DIAMETER LAP SPLICE. UNLESS OTHERWISE NOTED, CENTER WALL REINFORCEMENT IN BLOCK CELLS. USE NONMETALLIC BAR POSITIONERS.
- PROVIDE A CONTINUOUS BOND BEAM AT TOP OF WALL WITH 2-#5 BARS INSIDE. VERTICAL REBARS SHALL BE DEVELOPED INTO BOND BEAM, UNLESS OTHERWISE NOTED.
- BRACE TOP OF INTERIOR, NON-LOAD BEARING MASONRY WALLS TERMINATING AT THE UNDERSIDE OF FLOOR OR ROOF STRUCTURE AGAINST OUT-OF-PLANE MOVEMENT IN ACCORDANCE WITH THE "TYPICAL NON-BEARING CMU WALL BRACING" DETAIL.
- PROVIDE CONCRETE LINTEL AND WINDOW SILL ACCORDING TO SCHEDULES IN TYPICAL OPENING DETAIL.

CONCRETE CONSTRUCTION NOTES

- CAST-IN-PLACE CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM 28-DAY COMPRESSIVE STRENGTHS (F'C):
 - FOOTINGS AND SLAB ON GRADE3,000 psi
 - ALL OTHER CONCRETE4,000 psi
- CONCRETE DENSITY SHALL BE NORMAL WEIGHT UNLESS SPECIFICALLY OTHERWISE NOTED.
- WATER-CEMENT RATIO (W/C) NOT GREATER THAN 0.40 AND SLUMP SHALL NOT BE GREATER THAN 9 INCHES.
- ALL CONCRETE SHALL BE "READY MIXED" AND IN ACCORDANCE WITH ASTM SPECIFICATIONS C-94 A CERTIFICATE OF MANUFACTURER'S MIX AND STRUETH IS TO PROVIDED AND HAVE A MINIMUM OF 520 LBS. OF CEMENT PER CUBIC YARD. NO WATER TO BE ADDED AFTER TRUCK LEAVES PLANT WITHOUT APPROVAL OF ENGINEER OR PLANT ENGINEER. PLANT CONTROL IS REQUIRED. MAXIMUM MIX TIME AT POINT OF DEPOSIT IS 90 MINUTES. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN FOR REVIEW AND APPROVAL.
- CONCRETE REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A615M, GRADE 60, UNLESS OTHERWISE NOTED. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. PROVIDE SHEET-TYPE WELDED WIRE FABRIC SHEET LAPS SHALL BE TIED AND LAPPED ONE FULL MESH SPACING. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL.
- CONCRETE REINFORCING STEEL SHALL BE CONTINUOUS UNLESS OTHERWISE INDICATED. CONTINUOUS REINFORCING STEEL SHALL BE LAPPED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318.
- MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS INDICATED. IN NO CASE SHALL REINFORCEMENT COVER BE LESS THAN THE REQUIREMENTS OF ACI 301.
 - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"
 - CONCRETE EXPOSED TO EARTH OR WEATHER:
No.6 BARS AND LARGER.....2"
No.5 BARS AND SMALLER.....1 1/2"
 - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH:
SLABS AND WALLS.....3/4"
BEAMS AND COLUMNS.....1 1/2"
- CONCRETE REINFORCING STEEL MARKED STANDARD HOOK SHALL HAVE A 90 DEGREE HOOK WITH A MINIMUM EXTENSION BEYOND THE BEND OF 12 BAR DIAMETERS IN LENGTH, UNLESS OTHERWISE NOTED. STIRRUP, TIE AND 180-DEGREE HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.
- REINFORCING STEEL SHALL BE SPREAD AT SLEEVES, TIEBACKS, RECESSES AND OTHER EMBEDDED ITEMS UNLESS OTHERWISE INDICATED. REINFORCEMENT SHALL NOT BE CUT TO FACILITATE PLACEMENT OF EMBEDDED ITEMS.
- ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" OR AS INDICATED.
- ALUMINUM SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION AND ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTIMATING AND SUPPLYING ANY ADDITIONAL CONCRETE REQUIRED TO ACHIEVE SPECIFIED FLOOR FLATNESS CRITERIA.

CONCRETE CYLINDER AND SLUMPS TESTS

- AT LEAST ONE SET OF CYLINDERS SHALL BE PROVIDED FOR STRENGTH AND SLUMP TESTS PER POUR OR FOR EACH 50 CUBIC YARDS OF CONCRETE, WHICHEVER IS LESS. AT LEAST TWO SETS OF TESTS ARE RECOMMENDED FOR COLUMN POURS. FOR EACH POUR THE ENGINEER SHALL BE PROVIDED WITH ONE (1) 3-DAY TEST, ONE (1) 7-DAY TEST, ONE (1) 28-DAY TEST, ONE (1) SPARE, AND ONE (1) SLUMP TEST.

CONCRETE SLAB ON GRADE:

- WELDED WIRE REINFORCEMENT FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE LOCATED IN THE MIDDLE TO THE UPPER ONE-THIRD OF THE SLAB UNLESS OTHERWISE NOTED.
- WELDED WIRE REINFORCEMENT FABRIC SHALL BE SUPPORTED WITH THE APPROVED MATERIALS OR SUPPORTS AT SPACING NOT TO EXCEED 3 FEET IN ANY DIRECTION, OR IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
- A 6 MILS POLYETHYLENE VAPOR RETARDER SHALL BE LAPPED NOT LESS THAN 6 INCHES.
- ISOLATION JOINTS MUST BE USED AT JUNCTIONS WITH WALLS AND COLUMNS, USE 1/2" THICK PREMOLDED JOINTS FULL DEPTH OF SLAB UNLESS OTHERWISE NOTED.
- PLACE CONTROL JOINTS AT CENTER LINE OF COLUMNS. FOR UNREINFORCED OR PLAIN CONCRETE SLAB, PROVIDE JOINT SPACING OF 24 TO 36 TIMES THE SLAB THICKNESS UP TO A MAXIMUM SPACING OF 12 FEET. UNLESS OTHERWISE NOTED.
- THE RATIO OF LONG SIDE TO SHORT SIDE OF THE SLAB SHALL BE A MAXIMUM OF 1.5. HOWEVER, A RATIO OF 1 TO 1 IS PREFERRED.
- CONTROL JOINT DEPTH SHALL BE AT LEAST 1/4 OF THE SLAB THICKNESS OR A MINIMUM OF 1 INCH, WHICHEVER IS GREATER. JOINTS SHALL BE SAVED WITHIN 4 TO 12 HOURS AFTER CONCRETING.
- CONSTRUCTIONS JOINT MUST BE PLACED IN THE SLAB WHERE BUILDING EXPANSION JOINTS ARE SHOWN UNLESS OTHERWISE NOTED.
- WHEN CONCRETING AND OPERATING ARE CONCLUDED FOR THE DAY, CONSTRUCTION JOINTS SHALL BE FORMED WITH BURKE KEVED KOLD METAL JOINT FORM OR APPROVED EQUAL.
- ANY STRUCTURAL MEMBER PENETRATING SLAB ON FILL IS TO BE 1/2" PRE-MOLDED JOINT FILLER COMPLYING WITH ASTM D-1752, TYPE 1.
- PREMATURE FINISHING IS NOT ALLOWED. IMMEDIATE FOLLOWING FLOATING, TROWELING WITH STEEL TROWELS SHALL BE COMMENCED IF REQUIRED. BROOMING SHALL BE AFTER THE STEEL TROWELING OPERATION.
- SLAB FINISH TYPE: INSIDE BUILDING - STEEL TROWELED; OUTSIDE SLAB - BROOMED, UNLESS OTHERWISE NOTED.

PRECAST CONCRETE:

- ALL PRECAST CONCRETE CONSTRUCTION, INCLUDING REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318-14) AND THE RECOMMENDATIONS OF THE PRECAST / PRESTRESSED CONCRETE INSTITUTE "PCI DESIGN HANDBOOK - PRECAST AND PRESTRESSED CONCRETE", SIXTH EDITION.
- CONCRETE IN PRECAST CONCRETE COLUMNS, BEAMS, DOUBLE TEE SLABS AND OTHER MEMBERS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAY (F'C) OF 6000 PSI AND SHALL BE AIR-ENTRAINED.
- ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL BARS CONFORMING TO ASTM A615, GRADE 60.
- MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS INDICATED. IN NO CASE SHALL REINFORCEMENT COVER BE LESS THAN THE REQUIREMENTS OF ACI 318.
 - CONCRETE EXPOSED TO EARTH OR WEATHER:
WALL PANELS, SLABS AND JOIST.....1"
BEAMS AND COLUMNS.....1 1/2"
- THE PRECAST CONCRETE MANUFACTURER SHALL DESIGN THE PRECAST CONCRETE COLUMNS, BEAMS, DOUBLE TEE SLABS AND OTHER MEMBERS FOR LIFTING AND HANDLING LOADS WITHOUT CRACKING. INSERTS FOR LIFTING AND HANDLING SHALL BE PROVIDED AS REQUIRED AND SHALL NOT BE EXPOSED IN THE FINISHED WORK. INSERTS SHALL BE FABRICATED OF NON-CORROSIVE MATERIALS.
- PROVIDE EMBEDDED ITEMS AS INDICATED OR SPECIFIED.
- ALL PRECAST MEMBERS AND THEIR CONNECTIONS SHALL BE DESIGNED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH REQUIREMENTS OF APPLICABLE CODES SPECIFIED HEREIN.
- A COMPLETE SET OF SHOP DRAWING AND DESIGN CALCULATIONS SHALL BE SUBMITTED TO BEA INTERNATIONAL FOR APPROVAL PRIOR TO BEGINNING OF CONSTRUCTION AND SHALL ALLOW REASONABLE TIME FOR REVIEW.

STRUCTURAL STEEL:

- STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC STEEL CONSTRUCTION MANUAL AND SHALL CONFORM TO LATEST ASTM A36 SPECIFICATIONS. BOLTS TO CONFORM TO ASTM A325. ANCHOR BOLTS SHALL CONFORM TO ASTM A307. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS (AMERICAN WELDING SOCIETY).
 - ALL CONNECTIONS SHALL DEVELOP THE STRENGTH OF THE PART BEING CONNECTED. SHOP CONNECTIONS SHALL BE WELDED. FIELD CONNECTIONS SHALL BE BOLTED UNLESS OTHERWISE NOTED ON THE PLAN.
 - PROVIDE ONE SHOP COAT OF RUST-INHIBITIVE PAINT (MINIMUM 3 MIL DRY FILM). TOUCH UP ALL ABRASIONS AFTER ERECTION. APPLY FIELD FINISH PAINT COATS AS SPECIFIED, FOR INTERIOR STEEL COLUMNS, AND MISC. FABRICATIONS.
 - SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION OR ERECTION OF STRUCTURAL STEEL.
 - ALL STRUCTURAL STEEL, MISCELLANEOUS PLATES, EMBED ITEMS, BOLTS, NUTS, WASHERS, ANGLES, BRACKETS, NAILS, SCREWS AND CONNECTORS USED IN NON-CONDITIONED SPACES AND EXTERIOR AREAS EXPOSED TO THE WEATHER SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION NO EXCEPTIONS WILL BE PERMITTED (GALVANIZED SPRAY NOT DEEMED EQUIVALENT).
 - THE STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - W HOT-ROLLED SHAPES.....ASTM A992, Fy = 50 Ksi
 - SQUARE AND RECTANGULAR HSS.....ASTM A500, GRADE B, Fy = 46 Ksi
 - PLATES, ANGLES.....ASTM A36 / A 36M
 - HOT-ROLLED CARBON STEEL SHEETS AND STRIPS.....ASTM A245
 - HIGH STRENGTH BOLTS.....ASTM A325
 - HOOKED ANCHOR RODS.....ASTM F1554, GRADE 36
 - HEADED ANCHOR RODS.....ASTM F1554, GRADE 36
 - THREADED ANCHOR RODS.....ASTM F1554, GRADE 36
 - WELDING ELECTRODES.....AWS D1.1/D1.1M, E70XX
 - WELDED WIRE MESH.....ASTM A185
 - FIELD CUTTING OF STRUCTURAL STEEL MEMBERS BY ANY TRADE SHALL NOT BE PERMITTED. BOLT HOLES SHALL NOT BE CUT OR ENLARGED BY FLAME CUTTING IN THE FIELD.
 - ALL STEEL TO HAVE A SHOP COAT OF RUST INHIBITIVE PAINT.
- DELETE PAINT ON ALL STEEL TO RECEIVE SPRAYED ON FIREPROOFING OR CONCRETE ENCASEMENT.

TERMITE PROTECTION:

PER FBC SECTION 1616, TERMITE PROTECTION SHALL PROVIDED BY REGISTERED TERMINATORS, INCLUDING SOIL APPLIED PESTICIDES, BAITING SYSTEMS, AND PESTICIDES APPLIED TO WOOD, OR OTHER APPROVED METHODS OF TERMITE PROTECTION LABELED FOR USE AS A PREVENTATIVE TREATMENT TO NEW CONSTRUCTION. UPON COMPLETION OF THE APPLICATION OF THE TERMITE PROTECTIVE TREATMENT, A CERTIFICATE OF COMPLIANCE SHALL BE ISSUED TO THE BUILDING DEPARTMENT BY THE LICENSED PEST CONTROL COMPANY THAT CONTAINS THE FOLLOWING STATEMENT: "THE BUILDING HAS RECEIVED A COMPLETE TREATMENT FOR THE PREVENTION OF SUBTERRANEAN TERMITES. TREATMENT IS IN ACCORDANCE WITH RULES AND LAWS ESTABLISHED BY FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES."

SHORING, RESHORING AND TEMPORARY BRACING

THE GENERAL CONTRACTOR (GC) IS SOLELY RESPONSIBLE FOR FIELD FORMWORK, SHORING, RESHORING, TEMPORARY AND PERMANENT BRACING DESIGN.

SHOP DRAWINGS:

NO SHOP DRAWINGS SHALL BE SUBMITTED FOR ARCHITECT/ENGINEER'S REVIEW UNTIL AFTER THEY HAVE BEEN REVIEWED AND NOTED FOR CONSTRUCTION METHOD, DIMENSIONING, AND OTHER TRADE REQUIREMENTS BY THE CONTRACTOR, AND STAMPED WITH THE CONTRACTOR'S APPROVAL SEAL. ENGINEER ASSUMES NO RESPONSIBILITY FOR DIMENSIONS, QUANTITIES, ERRORS OR OMISSIONS, AS A RESULT OF CHECKING AND REVIEWING ANY SHOP DRAWINGS. ANY ERRORS OR OMISSIONS MUST BE MADE GOOD BY CONTRACTOR, IRRESPECTIVE OF RECEIPT, CHECKING OR REVIEW OF DRAWINGS BY ENGINEER, AND EVEN THOUGH WORK DONE IN ACCORDANCE WITH SUCH SHOP DRAWINGS.

SAFETY OSHA AND LABOR LAWS

THE STRUCTURAL ENGINEER OF RECORD NEITHER POSSESSES, NOR PRESUMES TO POSSESS, ANY KNOWLEDGE OR EXPERTISE CONCERNING JOBSITE EMPLOYEE SAFETY, OSHA OR LABOR LAW REQUIREMENTS FOR A CONSTRUCTION PROJECT. SAFETY AND COMPLIANCE WITH OSHA AND LABOR LAWS ARE THE ABSOLUTE RESPONSIBILITY OF THE GENERAL CONTRACTOR (GC) AND HIS CONSULTANTS TO ADDRESS THESE MATTERS. THE STRUCTURAL ENGINEER OF RECORD SPECIALIZES IN STRUCTURAL DESIGN ONLY. THE BOARD OF PROFESSIONAL REGULATION FORBIDS HIM FROM ASSUMING RESPONSIBILITY OUTSIDE HIS AREA OF EXPERTISE.

STRUCTURAL LEGEND

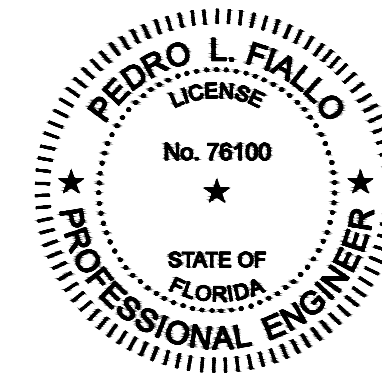
SYMBOL/ACRONYM	DESCRIPTION
O.C.	ON CENTER
REINF.	REINFORCEMENT
CONT.	CONTINUOUS
SCHED.	SCHEDULE
T.&B	TOP AND BOTTOM
T.O.F.	TOP OF FOOTING
E.J.	EXPANSION JOINT
E.F.	EACH FACE
W.W.M.	WELDED WIRE MESH
T.O.S.	TOP OF SLAB
B.O.B.	BOTTOM OF BEAM
T.O.B.	TOP OF BEAM
T.O.TB.	TOP OF THE BEAM
CLR.	CLEAR COVER
TP.	TYPICAL
T.O.W.	TOP OF WALL
T.O.P.	TOP OF PARAPET
V.I.F.	CONTRACTOR TO VERIFY IN FIELD
#12	SLOPE DIRECTION
	DEPRESSED SLAB BY "f" INCHES
#	GRID LINE
	NOTES BEGINNING OF COLUMN
	NOTES CONTINUATION OF COLUMN
	NOTES END OF COLUMN
	NOTES SHORT COLUMN

STRUCTURAL DRAWINGS INDEX

S-0.00	GENERAL STRUCTURAL NOTES
S-1.00	PARTIAL (I) FOUNDATION / GROUND FLOOR PLAN
S-1.01	PARTIAL (II) FOUNDATION / GROUND FLOOR PLAN
S-1.02	PARTIAL (I) ROOF FRAMING PLAN
S-1.03	PARTIAL (II) ROOF FRAMING PLAN
S-1.04	WIND LOAD DIAGRAM
S-2.00	TYPICAL DETAILS
S-3.00	SECTIONS
S-4.00	SCHEDULES
S-5.00	WINDOWS & DOORS NOMINAL WIND PRESSURES

LIST OF ALL DEFERRED SUBMITTALS

- PRESTRESSED ROOF DOUBLE TEE
- PRESTRESSED INVERTED TEE BEAM



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REVISIONS

MARK	DESCRIPTION
A	CITY COMMENTS

PROJECT OWNER

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RICHARD H. FREER

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