STRUCTURAL SPECIFICATIONS

MISCELLANEOUS

1. THESE ABBREVIATED DRAWING NOTES ARE WRITTEN TO MATCH THE BOOK SPECIFICATIONS. IF THERE ARE ANY ITEMS THAT DO NOT CORRESPOND EXACTLY AS WRITTEN, THE MORE STRINGENT WILL TAKE PRECEDENCE.

2. THE STRUCTURAL SYSTEM IS UNSTABLE UNTIL ALL CONNECTIONS HAVE BEEN MADE AND ALL CONCRETE HAS REACHED ITS MINIMUM DESIGN STRENGTH, AS SHOWN IN THE STRUCTURAL DOCUMENTS.

3. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION TO ENSURE THE SAFETY OF THE BUILDING UNTIL STRUCTURAL SYSTEM IS COMPLETED. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, SHORING, GUYS OR TIE_DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.

4. CONTRACTOR TO SUPPORT, BRACE AND SECURE EXISTING STRUCTURE AS REQUIRED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION.

5. APPLICABLE BUILDING CODE: 6TH EDITION 2017 FLORIDA BUILDING CODE

6. GRAVITY DESIGN LOADS:

AREA	SUPERIMPOSED LIVE LOAD	TOTAL DEAD LOAD
ROOF	20 PSF	25 PSF
SLAB-ON-GRADE	100 PSF	N/A
APPARATUS ROOM	400 PSF	N/A
FLOOR	100 PSF	110 PSF

7. WIND DESIGN CRITERIA:
   - ULTIMATE BASIC WIND SPEED: VULT = 154 MPH (3 SECOND GUST)
   - EQUIVALENT NOMINAL BASIC WIND SPEED VASD = 120 MPH (3 SECOND GUST)
   - RISK CATEGORY = IV
   - EXPOSURE CATEGORY = C
   - ENCLOSED BUILDING INTERNAL PRESSURE COEFFICIENT, GCPI= +/-0.18
   - WIND BORNE DEBRIS REGION

8. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REFERENCED BUILDING CODE.

9. COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. DO NOT SCALE DRAWINGS.

10. CONTACT ENGINEER WITH ANY QUESTIONS OR DISCREPANCIES FOUND ON DRAWINGS.

11. BUILDING EXPANSION JOINTS (EJ), WHERE SHOWN, WILL EXPAND AND CONTRACT OVER THE LIFE OF THE BUILDING. JOINT SEALANTS AND COVERS MUST ACCOMMODATE THIS MOVEMENT.

12. CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS, AND CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.

13. SUBMIT SHOP DRAWINGS AS REQUIRED HEREIN. ALLOW FOR TWO WEEKS REVIEW TIME AFTER RECEIPT OF SUBMITTALS BY THIS FIRM. ALL SUBMITTALS SHALL BE CHECKED AND SIGNED BY THE GENERAL CONTRACTOR AND SIGNED/SEALED BY THE DELEGATED ENGINEER, WHERE SPECIFIED HEREIN.

14. CONTRACTOR SHALL NOT BE RELIEVED FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS OR MIX DESIGNS BY THE ENGINEER'S REVIEW THEREOF.

15. ANY CHANGES TO THE STRUCTURE SHALL HAVE BEEN REVIEWED AND APPROVED IN WRITING BY THE ENGINEER PRIOR TO COMMENCING WORK ON ITEMS AFFECTED.

16. CONTRACTOR SHALL NOTIFY THIS OFFICE WHEN THE STRUCTURAL SYSTEM IS SUBSTANTIALLY COMPLETED, AND BEFORE SHEATHING, CEILINGS, OR ROOFING IS INSTALLED.

DELEGATED ENGINEER

1. WHERE NOTED HEREIN, A LICENSED PROFESSIONAL (DELEGATED) ENGINEER SHALL BE RETAINED TO DESIGN THE PRODUCT OR ASSEMBLY.

2. THE DELEGATED ENGINEER SHALL BE EXPERIENCED IN THE DESIGN OF THE REFERENCED PRODUCT OR ASSEMBLY.

3. THE DELEGATED ENGINEER MUST BE PROVIDED WITH A COPY OF THESE DRAWINGS AND SPECIFICATIONS.

4. IT IS THE DELEGATED ENGINEER'S RESPONSIBILITY TO REVIEW THE ENGINEER OF RECORD'S WRITTEN ENGINEERING REQUIREMENTS AND AUTHORIZATION FOR THE DELEGATED ENGINEERING DOCUMENT TO DETERMINE THE APPROPRIATE SCOPE OF ENGINEERING.

5. THE DELEGATED ENGINEERING DOCUMENT SHALL COMPLY WITH THE WRITTEN ENGINEERING REQUIREMENTS RECEIVED FROM THE ENGINEER OF RECORD. THEY SHALL INCLUDE THE PROJECT IDENTIFICATION AND THE CRITERIA USED AS A BASIS FOR ITS PREPARATION. IF A DELEGATED ENGINEER DETERMINES THERE ARE DETAILS, FEATURES OR UNANTICIPATED PROJECT LIMITS WHICH CONFLICT WITH THE WRITTEN ENGINEERING REQUIREMENTS PROVIDED BY THE ENGINEER OF RECORD, THE DELEGATED ENGINEER SHALL TIMELY CONTACT THE ENGINEER OF RECORD FOR RESOLUTION OF CONFLICTS.

6. THE DELEGATED ENGINEER SHALL FORWARD THE DELEGATED ENGINEERING DOCUMENT TO THE ENGINEER OF RECORD FOR REVIEW. ALL FINAL DELEGATED ENGINEERING DOCUMENTS REQUIRE THE IMPRESSED SEAL AND SIGNATURE OF THE DELEGATED ENGINEER AND INCLUDE:
   - A) DRAWINGS INTRODUCING ENGINEERING INPUT SUCH AS DEFINING THE CONFIGURATION OR STRUCTURAL CAPACITY OF STRUCTURAL COMPONENTS AND/OR THEIR ASSEMBLY INTO STRUCTURAL SYSTEMS.
   - B) CALCULATIONS.

SITE WORK

1. A SUBSURFACE INVESTIGATION HAS BEEN COMPLETED AT THE PROJECT SITE BY TIERRA INC.. SOIL BORING LOGS AND SITE PREPARATION PROCEDURES ARE INCLUDED IN THE PROJECT SOILS REPORT (   ), DATED (   ), WHICH IS AN INTEGRAL PART OF THESE CONTRACT DOCUMENTS.

2. SITE WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE PROJECT SOILS REPORT.

3. CONTRACTOR SHALL REVIEW THE SOILS REPORT AND VERIFY THAT TEST BORINGS HAVE BEEN DONE UNDER ALL BUILDING(S) PRIOR TO BEGINNING EARTHWORK.

4. INFORMATION FROM GEAOTECHNICAL REPORT:
   - A) DESIGN SOIL BEARING PRESSURE = ---- PSF.
   - B) ESTIMATED MAXIMUM SETTLEMENT= ---INCH.
   - C) ESTIMATED DIFFERENTIAL SETTLEMENT= ---FT.

5. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO PERFORM THE FOLLOWING MINIMUM TESTS. REFER TO SOILS REPORT FOR ANY ADDITIONAL TESTING.
   - A) ONE DENSITY TEST FOR EACH 2,000 SQUARE FEET OF COMPACTED SUBGRADE AND COMPACTED FILL.
   - B) ONE DENSITY TEST AT EACH COLUMN FOOTING.
   - C) ONE DENSITY TEST PER 50 FEET OF WALL FOOTING.

6. ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR.

7. FOUNDATION WALLS THAT RETAIN EARTH SHALL BE BRACED AGAINST BACKFILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE.

8. THE SIDES OF FOOTINGS MAY BE EARTH_FORMED IF THE EXCAVATION CAN BE KEPT VERTICAL, CLEAN, AND STABLE, OTHERWISE, PLYWOOD FORMS MUST BE USED.

9. EXERCISE CARE WHEN COMPACTING NEAR ADJACENT STRUCTURES. FOLLOW THE RECOMMENDATIONS IN THE SOILS REPORT AND DOCUMENT EXISTING CONDITIONS WITH PHOTOGRAPHS PRIOR TO STARTING WORK.

10. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITY LINES, TANKS, ETC. WITHIN THE CONSTRUCTION AREA AND RELOCATE THEM AS DIRECTED BY THE CIVIL ENGINEER.

CAST IN PLACE CONCRETE

1. ALL CAST-IN-PLACE CONCRETE WORK INCLUDES REINFORCING STEEL AND RELATED WORK SHOWN INCLUDING FORMWORK, SETTING ANCHOR BOLTS, PLATES, FRAMES, DOWELS FOR MASONRY OR OTHER ITEMS EMBEDDED IN CONCRETE.

2. APPLICABLE STANDARDS

ACI NUMBER	TITLE
117	STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION
226	GROUND GRANULATED BLAST-FURNACE SLAG
301	STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
302	GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
304	GUIDE FOR MEASURING MIXING, TRANSPORTING AND PLACING CONCRETE
304.2R	PLACING CONCRETE BY PUMPING METHODS.
305R	HOT WEATHER CONCRETING
306R	COLD WEATHER CONCRETING
308	STANDARD PRACTICE FOR CURING CONCRETE
309R	GUIDE FOR CONSOLIDATION OF CONCRETE
315	MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES
318	BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
347	RECOMMENDED PRACTICE FOR CONCRETE FORMWORK

CRSI NUMBER	TITLE
63	RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS

3. CONCRETE MATERIALS
   - A) PORTLAND CEMENT - ASTM C 150, TYPE I
   - B) AGGREGATES - NORMAL WEIGHT CONCRETE, COARSE AND FINE, ASTM C33. STRUCTURAL LIGHT WEIGHT ASTM C330.
   - C) AIR-ENTRAINING - ASTM C260
   - D) WATER REDUCING - ASTM C494, TYPE A
   - E) WATER - FRESH, CLEAN AND POTABLE
   - F) NO ACCELERATORS, RETARDERS OR ADMIXTURES CONTAINING CHLORIDES WILL BE PERMITTED
   - G) FLY-ASH - ASTM C618, CLASS F, 20% MAXIMUM OF CEMENTITIOUS MATERIAL BY WEIGHT. DO NOT USE FOR EXPOSED SLABS OR ARCHITECTURAL CONCRETE.
   - H) SUPER PLASTICIZER - ASTM C494, TYPE F OR G, WHERE AUTHORIZED BY THE ENGINEER.
   - I) GROUND GRANULATED BLAST-FURNACE SLAG CEMENT - ASTM C989, 50% MAXIMUM BY WEIGHT.
   - J) MAXIMUM AGGREGATE SIZE - FOOTINGS = #57, OTHERS #67

4. REINFORCING MATERIALS
   - A) DEFORMED BARS - ASTM A615, GRADE 60
   - B) SMOOTH DOWELS - ASTM A615, PLAIN BARS, MINIMUM YIELD STRENGTH OF 60,000 PSI.
   - C) CORROSION RESISTANT UNCOATED STEEL (MMFX-2) - ASTM A615, GRADE 75 AND ASTM A1035 LOW-CARBON (8% MINIMUM) CHROMIUM BY MMFX OR EQUAL.
   - D) WELDED WIRE FABRIC - ASTM A185, PLAIN WIRE FABRIC IN FLAT SHEETS ONLY.
   - E) ACCESSORIES TO CONFORM TO ACI 315.
   - F) WHERE CONCRETE SURFACES ARE EXPOSED, MAKE THOSE PORTIONS OF ALL ACCESSORIES IN CONTACT WITH THE CONCRETE SURFACE OR WITHIN 1/2 INCH THEREOF, OF PLASTIC OR STAINLESS STEEL.

5. PROVIDE THE FOLLOWING MINIMUM CONCRETE STRENGTHS AT 28 DAYS:
   - A) FOOTINGS, SLAB-ON-GRADE--------------------3000 PSI
   - B) MASONRY WALL BEAMS, TIE COLUMNS------------3000 PSI
   - C) FORMED COLUMNS, WALLS, BEAMS & SLABS-------4000 PSI
   - D) PRECAST TOPPING------------------------3000 PSI

6. CONCRETE MUST BE BATCHED, MIXED AND TRANSPORTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR READY-MIXED CONCRETE ASTM C94.

7. REQUIRED SLUMP = 4 PLUS OR MINUS ONE INCH.

8. CONCRETE MUST BE PLACED WITHIN 90 MINUTES OF BATCH TIME. WHEN AIR TEMPERATURE IS BETWEEN 85 AND 90 DEGREES F, REDUCE MIXING AND DELIVERY TIME TO 75 MINUTES. WHEN AIR TEMPERATURE IS HIGHER THAN 90 DEGREES F, REDUCE MIXING AND DELIVERY TIME TO 60 MINUTES.

9. DO NOT ADD WATER AT THE JOB SITE WITHOUT APPROVAL OF THE PROJECT SUPERINTENDENT. DO NOT EXCEED THE SLUMP LIMITATION. USE ONLY COLD WATER FROM THE TRUCK TANK. ANY ADDED WATER MUST BE INDICATED ON THE DELIVERY TICKET PLUS THE NAME OF THE PERSON AUTHORIZING. TEST CYLINDERS SHALL BE TAKEN AFTER THE ADDITION OF WATER.

10. LAP SPLICE REINFORCING PER CONCRETE LAP SCHEDULE MINIMUM UNLESS OTHERWISE SHOWN OR NOTED.

11. PROVIDE CORNER BARS AT ALL WALL FOOTING, WALL AND BEAM CORNERS. SIZE AND NUMBER TO MATCH HORIZONTAL BARS.

12. PROVIDE FOUNDATION DOWELS TO MATCH SIZE AND NUMBER OF VERTICAL BARS. EMBED DOWELS TO:
   - A) 3" ABOVE BOTTOM OF FOOTINGS

13. REINFORCEMENT SHALL BE FASTENED AND SECURED TOGETHER TO PREVENT DISPLACEMENT BY CONSTRUCTION LOADS OR THE PLACING OF CONCRETE.

14. REINFORCING BAR COVER
   - A) FOOTINGS 2" (TOP), 3" (SIDES AND BOTTOM)
   - B) COLUMNS AND BEAMS 1-1/2"
   - C) SLABS 3/4" (INTERIOR), 1-1/2" (EXTERIOR)

15. WHERE BAR LENGTHS ARE GIVEN ON THE DRAWINGS, LENGTH OF HOOK, IF REQUIRED, IS NOT INCLUDED.

16. SELECT PROPORTIONS IN ACCORDANCE WITH ACI 301 TO PROVIDE CONCRETE CAPABLE OF BEING PLACED WITHOUT EXCESSIVE SEGREGATION AND WITH ACCEPTABLE FINISHING PROPERTIES, DURABILITY, SURFACE HARDENERS, APPEARANCE, AND STRENGTH REQUIREMENTS REQUIRED BY THESE SPECIFICATIONS.

17. CHAIR WELDED WIRE FABRIC REINFORCING AT 3'-0" ON CENTER MAXIMUM IN EACH DIRECTION.

18. MAXIMUM WATER TO CEMENT RATIO WHEN NO BACK UP DATA IS AVAILABLE:
   - A) 4000 PSI, 28-DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.44 MAXIMUM (NON-AIR-ENTRAINED), 0.36 MAXIMUM (AIR-ENTRAINED).
   - B) 3000 PSI, 28-DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.58 MAXIMUM (NON-AIR-ENTRAINED), 0.47 MAXIMUM (AIR-ENTRAINED).

19. DATA TO BE SUBMITTED:
   - A) INTENDED USAGE AND LOCATION FOR EACH TYPE
   - B) MIX DESIGN FOR EACH TYPE
   - C) CEMENT CONTENT IN POUNDS-PER-CUBIC YARD
   - D) COARSE AND FINE AGGREGATE IN POUNDS/CUBIC YARD
   - E) WATER CEMENT RATIO BY WEIGHT
   - F) CEMENT TYPE AND MANUFACTURER
   - G) SLUMP RANGE
   - H) AIR CONTENT
   - I) ADMIXTURE TYPE AND MANUFACTURER
   - J) PERCENT ADMIXTURE BY WEIGHT
   - K) STRENGTH TEST DATA REQUIRED TO ESTABLISH MIX DESIGN.
   - L) COMPLETE DETAIL AND PLACING SHOP DRAWINGS FOR ALL REINFORCING STEEL INCLUDING ACCESSORIES THAT HAVE BEEN REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR. INCLUDE ALL REQUIRED DIMENSIONS AND ELEVATIONS (IE. TOP OF CONCRETE)

20. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CONSTRUCTION OF FORMWORK, SHORING AND RE-SHORING IN ACCORDANCE WITH ACI 347.
   - A) FORM AND SHORING DESIGN BY A P.E. REGISTERED IN THE STATE OF FLORIDA.

21. SUBMIT FORM WORK AND SHORING DRAWINGS TO LOCAL BUILDING DEPARTMENT WHEN REQUIRED BY FLORIDA THRESHOLD LAW.

22. CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS MUST BE MADE AND LOCATED TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE.
   - A) NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN BEAMS, GIRDERS AND SLABS.
   - B) LOCATION OF ANY CONSTRUCTION JOINT NOT SHOWN IS SUBJECT TO REVIEW AND ACCEPTANCE BY ENGINEER.

23. INTERNAL VIBRATION, PROPERLY APPLIED IS THE REQUIRED METHOD OF CONSOLIDATING PLASTIC CONCRETE.

24. PROVIDE 3/4" CHAMFER ON ALL EXPOSED CORNERS OF COLUMNS, BEAMS AND WALLS UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS.

25. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL OPENINGS, SLEEVES, AND SLAB RECESSES AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED. NO SLEEVE, OPENINGS, OR INSERT MAY BE PLACED IN BEAMS, JOISTS, OR COLUMN UNLESS APPROVED BY THE ENGINEER.

26. CONTRACTOR SHALL VERIFY EMBEDDED ITEMS INCLUDING, BUT NOT LIMITED TO, ANCHOR BOLTS, BOLT CLUSTERS, WELD PLATES, ETC., BEFORE PLACING CONCRETE. NOTIFY ENGINEER OF ANY CONFLICTS WITH REBAR.

27. SEE ARCHITECTURAL DRAWINGS FOR REQUIRED CONCRETE FINISHES.

28. SLOPE WALKWAYS TO DRAIN AWAY FROM THE BUILDING.

29. BUILDING FLOOR AND SITE SLABS-ON-GRADE SHALL BE 4" MINIMUM THICKNESS, UNLESS NOTED OTHERWISE.
   - A) REINFORCED WITH 6X6 - W1.4 X W1.4 W.W.F.
   - B) PLACED ON 15 MIL POLYETHYLENE VAPOR RETARDER. LAP 6" AND TAPE ALL JOINTS.
   - C) SAW-CUT CONTROL JOINTS @ LESS THAN OR EQUAL TO 15'-0" EACH WAY.
   - D) PROVIDE HOUSEKEEPING PADS AS REQUIRED.
   - E) SEE DRAWINGS FOR ANY ADDITIONAL CONDITIONS.

30. TESTING
   - A) A QUALIFIED TESTING LAB SHALL BE RETAINED TO PERFORM QUALITY CONTROL WORK AND ON-SITE TESTING.
   - B) SLUMP TEST - ASTM 143
   - C) MOLD AND CURE TEST CYLINDERS (ASTM C-31) AND TEST CYLINDERS FOR STRENGTH (ASTM C39). TAKE ONE TEST - FOUR CYLINDERS FOR EACH DAYS POUR OF 50 CUBIC YARDS, OR FRACTION THEREOF. TEST ONE CYLINDER AT 7 DAYS, TWO AT 28 DAYS AND ONE HOLD. TEST CYLINDER SAMPLES SHALL BE TAKEN AT THE POINT OF DISCHARGE WHEN USING A PUMP.
   - D) ONE COPY OF ALL TEST REPORTS SHALL BE SENT DIRECTLY TO THE OWNER, ENGINEER, ARCHITECT AND GENERAL CONTRACTOR.

31. CONTRACTOR SHALL PROVIDE FLATNESS AND LEVELNESS IN CONCRETE SLABS PER ACI 302.1R, FIG. 8.7 MINIMUM REQUIRED FF NUMBERS FOR TYPE OF SLAB USE. REFER TO ACI 117 FOR FLOOR TOLERANCES.

32. REPAIR ANY CRACKS OR DEFECTIVE AREAS THAT WILL RESTORE THE AFFECTED SURFACE OR AREAS TO THEIR FULL DESIGN STRENGTH AND APPEARANCE. CONTACT THE STRUCTURAL ENGINEER FOR ADVICE AND EVALUATION.

33. ACCEPTANCE OF THE STRUCTURE WILL BE MADE IN CONFORMANCE WITH ACI 301.

34. ALL CAST-IN-PLACE CONCRETE MUST BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR A MINIMUM OF 7 DAYS FOLLOWING THE PLACING OF THE CONCRETE BY THE USE OF A WATER SPRAY, WATER SATURATED FABRIC, MOISTURE RETAINING MEMBRANE OR LIQUID CURING COMPOUND.

35. CURE SLABS-ON-GRADE FOR THE FIRST 72 HOURS BY THE USE OF:
   - A) FOG SPRAYING
   - B) PONDING
   - C) SPRINKLING
   - D) CONTINUOUSLY WET ABSORPTIVE MATS OR FABRIC
   - E) CONTINUE CURING BY USE OF MOISTURE RETAINING COVER UNTIL CONCRETE HAS OBTAINED ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
   - F) OR LIQUID CURING COMPOUND AFTER FINISHING PROCESS IS COMPLETED.
   - G) CONCRETE WET CURE TIME TO BE 7 DAYS MINIMUM AT 50 DEGREES MINIMUM TEMPERATURE.

36. SUBMIT MATERIALS AND METHOD OF CURING FOR REVIEW.

37. DO NOT USE MOISTURE RETAINING CURING COMPOUNDS FOR CURING SURFACES TO RECEIVE CARPET, FLEXIBLE FLOORING, CERAMIC TILED FLOORS OR OTHER SPECIFIED FLOOR SYSTEMS, UNLESS IT HAS BEEN DEMONSTRATED THAT SUCH COMPOUNDS WILL NOT PREVENT BOND.

38. DO NOT PERMIT CONCRETE NOT FULLY CURED TO BE EXPOSED TO EXCESSIVE TEMPERATURE CHANGES OR HIGH WINDS.

39. POUR ALL GROUND SLABS ON 15 MIL MINIMUM VAPOR RETARDER IN COMPLIANCE WITH ASTM E1745, LAPPED 6" MINIMUM AND FULLY TAPED.

40. EQUIPMENT MADE OF ALUMINUM OR ALUMINUM ALLOYS, SHALL NOT BE USED FOR PUMP LINES, TREMIES, OR CHUTES OTHER THAN SHORT CHUTES SUCH AS THOSE USED TO CONVEY CONCRETE FROM A TRUCK MIXER.

41. THE CODE PROHIBITS THE USE OF ALUMINUM (CONDUIT, PIPES, ETC.) IN STRUCTURAL CONCRETE UNLESS IT IS EFFECTIVELY COATED OR COVERED.

PRECAST CONCRETE U-LINTELS AND SILLS

1. UNITS SHALL BE FABRICATED BY A FIRM ENGAGED IN THE MANUFACTURING OF PRECAST AND PRE-STRESSED CONCRETE U-LINTELS AND SILLS FOR A MINIMUM OF 5 YEARS. FABRICATOR SHALL HAVE A QUALITY ASSURANCE PROGRAM THAT COMPLIES WITH THE PROCEDURES OF MANUAL 116 BY THE PRECAST/PRE-STRESSED CONCRETE INSTITUTE PCI).

2. PLANT RECORDS OF PRODUCTION AND QUALITY CONTROL SHALL BE KEPT IN ACCORDANCE WITH PCI RECOMMENDATIONS AND MADE AVAILABLE UPON REQUEST FOR THE ARCHITECT/ENGINEER.

3. CODES AND STANDARDS:
   - A) AMERICAN SOCIETY FOR TESTING AND MATERIALS(ASTM)
     - 1) C33 - SPECIFICATION FOR CONCRETE AGGREGATES
     - 2) C150 - SPECIFICATION FOR PORTLAND CEMENT
   - B) PRECAST/PRE-STRESSED CONCRETE INSTITUTE (PCI) STANDARDS: MANUAL FOR QUALITY CONTROL FOR PRECAST AND PRE-STRESSED CONCRETE MNL-116.
   - C) AMERICAN CONCRETE INSTITUTE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)
   - D) AMERICAN CONCRETE INSTITUTE: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530)

4. CONCRETE MATERIALS:
   - A) PORTLAND CEMENT: ASTM C150 TYPE I OR III, GRAY COLOR
   - B) AGGREGATES: ASTM C33
   - C) WATER: POTABLE
   - D) ADMIXTURES: SHALL NOT CONTAIN CALCIUM CHLORIDE OR CHLORIDE IONS

5. REINFORCING
   - A) DEFORMED REINFORCEMENT: ASTM A615 GRADE 40 OR 60.
   - B) PRE-STRESSING STRAND: ASTM A416 270 KSI LL.

6. U-LINTEL UNITS 14 FEET IN OVERALL LENGTH AND SHORTER SHALL BE MADE OF CONCRETE WITH A MINIMUM STRENGTH OF 3500 PSI AT 28 DAYS.

7. U-LINTEL UNITS EXCEEDING 14 FEET IN OVERALL LENGTH SHALL BE MADE OF CONCRETE WITH A MINIMUM STRENGTH OF 6000 PSI AT 28 DAYS AND SHALL BE PRE-STRESSED CONCRETE.

8. SILL UNITS SHALL BE MADE OF CONCRETE WITH A MINIMUM STRENGTH OF 3000 PSI AT 28 DAYS.

9. UNITS SHALL BE SAND BLOCK FINISH EXCEPT PRE-STRESSED, 6" WIDE, AND 12" WIDE U-LINTELS SHALL BE SMOOTH FORM FINISHED.

10. PRECAST CONCRETE U-LINTELS SHALL BE DESIGNED BY A LICENSED DELEGATED ENGINEER.

11. SUBMITTALS
   - A) PROVIDE MANUFACTURER'S CATALOG ENGINEERING DATA.
   - B) MANUFACTURER SHALL RATE U-LINTEL UNITS FOR GRAVITY, UPLIFT, AND LATERAL LOADS IN UNITS OF POUNDS PER LINEAR FOOT.

FIBROUS REINFORCING (ALTERNATE TO W.W.F. IN SLAB-ON-GRADE)

1. REINFORCING FIBERS TO BE VIRGIN 100% MICRO SYNTHETIC POLYPROPYLENE FIBERS, SPECIFICALLY MANUFACTURED FOR USE IN CONCRETE, CONTAINING NO REPROCESSED OLEFIN MATERIALS, WITH THE FOLLOWING MINIMUM PHYSICAL CHARACTERISTICS:
   - A) SPECIFIED GRAVITY: 0.91
   - B) YOUNG'S MODULUS 0.5 (3.5KN/MM2)
   - C) TENSILE STRENGTH: 45-60 KSI
   - D) LENGTH: 3/4" MAXIMUM, MULTI GRADATION DESIGN

2. REINFORCING FIBERS TO BE SUPPLIED BY THE FOLLOWING APPROVED MANUFACTURERS:
   - A) "FIBERSTRAND 100", EUCLID CHEMICAL COMPANY
   - B) "FIBERMESH 150 OR 300, PROPEX CONCRETE SOLUTIONS
   - C) "FORTA ECONO-NET", FORTA CORPORATION
   - D) "NYCON SUPER FIBERS", NYCON, INC.

3. FIBERS TO BE ADDED IN MANUFACTURER'S APPROVED AMOUNT WITH A MINIMUM OF 1.5 LBS PER CUBIC YARD FOR POLY AND NYLON.

4. CONCRETE TO BE MIXED IN ACCORDANCE WITH FIBER MANUFACTURER'S RECOMMENDATIONS FOR UNIFORM AND COMPLETE DISPERSION OF FIBER BUNDLES INTO SINGLE MONOFILAMENTS WITHIN CONCRETE.

5. REINFORCING FIBERS ONLY TO BE USED IN CONCRETE SLAB-ON-GRADES, AND NOT IN PRECAST PLANK OR METAL DECK TOPPING SLABS.

6. FOR A "NON-HAIRY" FINISH, USE A MONOFILAMENT FIBER. MORE DEMANDING APPLICATIONS, USE A COLLATED FIBRILLATED FIBER, WHICH WILL WEAR AWAY OVER TIME.

STRUCTURAL DRAWING INDEX

STRUCTURAL SPECIFICATIONS

S0.1 1/8"=1'

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Clearwater, FL 33760-3137

FleischmanGarcia
ARCHITECTURE · PLANNING · INTERIOR DESIGN

Pasco County Fire & Rescue Station No. 17

New Port Richey, Florida

FGA PROJECT NUMBER 19039

ISSUE DATE 05-25-20

SHEET NUMBER S0.1