

STRUCTURAL NOTES:

1000 GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
2. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OR RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
3. NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH ALTERATIONS.
4. DO NOT SCALE DRAWINGS.
5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. THE ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE DESIGN OF THE FOUNDATION, FOUNDATION PROCESSES AND SEQUENCE TO INSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE-DOWNS.
6. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
7. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND IDENTIFY ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
9. THE STRUCTURAL ENGINEER'S OBLIGATIONS TO REVIEW SHOP DRAWINGS AND OTHER SUBMITTALS AND TO RETURN THEM IN A TIMELY MANNER ARE CONDITIONED UPON THE PRIOR REVIEW AND APPROVAL OF THE SHOP DRAWINGS OR SUBMITTALS BY THE CONTRACTOR AS REQUIRED IN THE CONSTRUCTION CONTRACT AND THE CONTRACTOR'S SUBMITTAL OF THE SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH A WRITTEN SCHEDULE DISTRIBUTED IN ADVANCE TO THE ENGINEER IDENTIFYING THE DATES FOR THE SUBMITTAL OF THE VARIOUS SHOP DRAWINGS AND SUBMITTALS.
10. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF TLC ENGINEERING FOR ARCHITECTURAL PURPOSES IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS UNIFORM SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK.
11. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OR FINISHING OF STRUCTURAL SURFACES, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.
12. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN WALL/WINDOW WALL SYSTEMS, COLD-FORMED FRAMING, OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
13. IN THE PROFESSIONAL OPINION OF TLC ENGINEERING FOR ARCHITECTURE, INC. THE STRUCTURAL CONTRACT DOCUMENTS FOR THIS PROJECT HAVE BEEN PREPARED IN ACCORDANCE WITH THE DESIGN CRITERIA AS SET FORTH IN THE FLORIDA BUILDING CODE, 2014.
14. NO PROVISIONS HAVE BEEN MADE FOR VERTICAL OR HORIZONTAL EXPANSION.
15. FINISH FLOOR ELEVATION (LEVEL TWO) OF 11'-0" IS USED AS A REFERENCE ELEVATION. SEE CIVIL DRAWINGS FOR ACTUAL ELEVATION.
16. THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS AND USE OF CADD FILES BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON. ELECTRONIC CADD FILES ARE AVAILABLE AT THE DISCRETION OF TLC UPON RECEIPT OF A FIXED PROCESSING FEE OF \$500 SHEET.

1060 DESIGN LOADS:

1. THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 2014 EDITION.
2. THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:
- 2.1 DEAD LOADS SUPERIMPOSED
- | LOCATION | LOAD (PSF) |
|------------------------|--------------------------------|
| PATIO | SEE FLOOR LOADING PLAN 55 PSF |
| TERRACE | 25 PSF |
| STORAGE | 100 PSF |
| RESTAURANT | SEE FLOOR LOADING PLAN 100 PSF |
| ROOF DECK | SEE FLOOR LOADING PLAN 20 PSF |
| MECHANICAL PENTHOUSE | 10 PSF |
| CANOPY | 10 PSF |
| EDUCATION CENTER FLOOR | 10 PSF |
| PAVILION FLOOR | 10 PSF |
| TILTED LAWN | REF. TO TILTED LAWN SHEET N/A |
| FLIGHT DECK | 10 PSF |
- 2.2 LIVE LOADS
- | LOCATION | LOAD (PSF) |
|------------------------|--------------------------------|
| PATIO | SEE FLOOR LOADING PLAN 100 PSF |
| TERRACE | 100 PSF |
| STORAGE | 100 PSF |
| RESTAURANT | SEE FLOOR LOADING PLAN 100 PSF |
| ROOF DECK | SEE FLOOR LOADING PLAN 100 PSF |
| MECHANICAL PENTHOUSE | 100 PSF |
| EDUCATION CENTER FLOOR | 100 PSF |
| PAVILION FLOOR | 100 PSF |
| TILTED LAWN | 100 PSF |
| FLIGHT DECK | 100 PSF |
| ROOF | 20 PSF |
| STAIRS AND EXITS | 100 PSF |
- 2.3 WIND: PER 2014 BUILDING CODE, SECTION 16. WIND MAPS WERE INTERPOLATED TO OBTAIN THE VALUES SHOWN BELOW.

PIERHEAD BUILDING (PER FBC 2014 AND ASCE7-10)

V_W = 115 MPH (3 SEC. GUST) REGION (ULTIMATE WIND SPEED)
V₅₀ = 120 MPH (ALLOWABLE WIND SPEED)
RISK CATEGORY III
EXPOSURE = D
INTERNAL PRESSURE COEFFICIENT G_{CPI} = +/- 0.18
IMPACT RESISTANT GLASS OR FBC APPROVED ALTERNATIVE IS REQUIRED.

OTHER BUILDINGS

V_W = 145 MPH (3 SEC. GUST) REGION (ULTIMATE WIND SPEED)
V₅₀ = 112 MPH (ALLOWABLE WIND SPEED)
RISK CATEGORY II
EXPOSURE = D
INTERNAL PRESSURE COEFFICIENT G_{CPI} = +/- 0.18
IMPACT RESISTANT GLASS OR FBC APPROVED ALTERNATIVE IS REQUIRED.

1010 BUILDING MOVEMENTS

- THE BUILDING MOVEMENT SPECIFIED HEREIN IS ANTICIPATED TO OCCUR AND SHOULD BE CONSIDERED BY THE CONTRACTOR IN THE PERFORMANCE OF THE WORK.
1. SPANDREL BEAM DEFLECTIONS. THE FOLLOWING PROVISION SHOULD BE MADE FOR SUPERIMPOSED LOAD DEFLECTION OF ONE FLOOR RELATIVE TO AN ADJACENT FLOOR IN THE DESIGN, FABRICATION, AND ERECTION OF THE BUILDING CLADDING.
- A. TYPICAL SPANDREL BEAM - 3/8" SUPERIMPOSED LOAD DEFLECTION IS DEFINED AS ALL DEFLECTION ANTICIPATED TO OCCUR AFTER THE CLADDING HAS BEEN ERECTED. THE RELATIVE DEFLECTION ABOVE DOES NOT INCLUDE THE FLOOR DEFLECTION CAUSED BY THE WEIGHT OF THE CLADDING ITSELF OR THE DEAD LOAD DEFLECTION OF THE FLOOR FRAMING ITSELF, NOR DOES IT INCLUDE ANY ALLOWANCE FOR FABRICATION OR ERECTION TOLERANCES.
2. THE FOLLOWING PROVISION FOR SUPERIMPOSED LOAD DEFLECTIONS SHALL BE MADE IN THE DESIGN, FABRICATION, AND INSTALLATION OF ALL PARTITIONS, GLASS WALLS, AND OTHER ELEMENTS SUPPORTED BY AND ATTACHED TO THE STRUCTURE.
- A. TYPICAL FLOOR MEMBERS - SPAN/360 BUT NOT LESS THAN 3/8"
- B. TYPICAL ROOF MEMBERS - SPAN/360 BUT NOT LESS THAN 3/8"
3. STORY DRIFT: LATERAL FRAME DEFLECTION OF H/300 IN THE PLANE OF THE WALL OF ONE FLOOR RELATIVE TO AN ADJACENT FLOOR SHALL BE TAKEN INTO ACCOUNT IN THE DESIGN, FABRICATION AND INSTALLATION OF THE BUILDING CLADDING.

1070 SPECIAL INSPECTIONS:

1. THIS BUILDING IS CLASSIFIED AS A "THRESHOLD BUILDING".
2. SPECIAL INSPECTION OF THE CONSTRUCTION IS REQUIRED BY THE STATE OF FLORIDA IN ACCORDANCE WITH CHAPTER 553 OF THE FLORIDA STATUTES. CONSTRUCTION SHALL BE INSPECTED IN ACCORDANCE WITH THE SPECIAL INSPECTION PLAN SUBMITTED TO THE LOCAL AUTHORITY HAVING JURISDICTION. THE SPECIAL INSPECTION PLAN IS PART OF THE PERMIT DOCUMENTS.

1330 SHOP DRAWING REVIEW:

1. SHOP DRAWINGS SHALL ADEQUATELY DEPICT THE STRUCTURAL ELEMENTS AND CONNECTIONS SHOWN ON THE CONTRACT DOCUMENTS. SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC. REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THE SHOP DRAWINGS.
2. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND MARKED "APPROVED" PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER, NON-CONFORMING DRAWINGS/SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER OF RECORD.
4. CHANGES AND ADDITIONS MADE ON RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED. THE PURPOSE OF THE RE-SUBMITTALS SHALL BE CLEARLY NOTED ON THE LETTER OF TRANSMITTAL. ARCHITECT/ENGINEER OF RECORD REVIEW WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL. CONTRACTOR IS RESPONSIBLE FOR COSTS CAUSED BY MULTIPLE RE-SUBMITTALS (MORE THAN ONE) AT ARCHITECT/ENGINEER'S CURRENT REVIEW.
5. ENGINEER SHALL TAKE UP TO 10 BUSINESS DAYS TO REVIEW AND RETURN SUBMITTALS. HOWEVER, THE ENGINEER WILL ATTEMPT TO EXPEDITE THE REVIEW OF ALL SUBMITTALS WITHIN A REASONABLE TIME FRAME. THE CONTRACTOR SHALL BREAK UP LARGE SUBMITTALS INTO SMALLER PACKAGES AND IDENTIFY PRIORITY ITEMS.

1331 SHOP DRAWINGS FOR SPECIALTY ENGINEERED PRODUCTS:

1. THE FOLLOWING SYSTEMS AND COMPONENTS AS A MINIMUM REQUIRE FABRICATION AND ERECTION DRAWINGS PREPARED BY A DELEGATED ENGINEER:
- A. LIGHT GAGE STEEL EXTERIOR OR LOAD BEARING WALL SYSTEMS
- B. ALUMINUM WALL SYSTEMS
- C. GLAZED CURTAIN WALLS
- D. PREFABRICATED STEEL STAIRS & RAILINGS
- E. ARCHITECTURAL PRECAST CONCRETE ELEMENTS
- F. STRUCTURAL PRECAST SYSTEMS
- G. GLASS FIBER REINFORCED CONCRETE PANEL SYSTEMS
- H. STRUCTURAL STEEL CONNECTIONS REQUIRING ENGINEERING
- I. POST TENSION SLAB SYSTEMS
2. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT AND APPLICABLE CODES, LIST THE DESIGN CRITERIA, AND SHOW ALL DETAILS AND DRAWINGS NECESSARY FOR PROPER FABRICATION AND INSTALLATION. CALCULATIONS AND SHOP DRAWINGS SHALL IDENTIFY SPECIFIC PRODUCT UTILIZED. GENERIC PRODUCTS WILL NOT BE ACCEPTED.
3. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED UNDER THE DIRECT SUPERVISION AND CONTROL OF THE DELEGATED ENGINEER.
4. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT RESIDES. COMPUTER PRINTOUTS ARE AN ACCEPTABLE SUBSTITUTE FOR MANUAL CALCULATIONS PROVIDED THEY ARE ACCOMPANIED BY SUFFICIENT DESCRIPTIVE INFORMATION TO PERMIT THEIR PROPER EVALUATION. SUCH DESCRIPTIVE INFORMATION SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT RESIDES AS AN INDICATION THAT HE/SHE HAS ACCEPTED RESPONSIBILITY FOR THE RESULTS. THE STRUCTURAL ENGINEER WILL RETAIN ONE SIGNED AND SEALED SET FOR THEIR RECORDS.
5. DRAWINGS PREPARED SOLELY TO SERVE AS A GUIDE FOR FABRICATION AND INSTALLATION (SUCH AS REINFORCING STEEL, SHOP DRAWINGS OR STRUCTURAL STEEL ERECTION DRAWINGS) AND REQUIRING NO ENGINEERING, DO NOT REQUIRE THE SEAL OF A DELEGATED ENGINEER.
6. CATALOG INFORMATION ON STANDARD PRODUCTS DOES NOT REQUIRE THE SEAL OF A DELEGATED ENGINEER.
7. REVIEW BY THE STRUCTURAL ENGINEER OF RECORD OF SUBMITTALS IS LIMITED TO VERIFYING THE FOLLOWING:
- A. THAT THE SPECIFIED STRUCTURAL SUBMITTALS HAVE BEEN FURNISHED.
- B. THAT THE STRUCTURAL SUBMITTALS HAVE BEEN SIGNED AND SEALED BY THE DELEGATED ENGINEER.
- C. THAT THE DELEGATED ENGINEER HAS UNDERSTOOD THE DESIGN INTENT AND HAS USED THE SPECIFIED STRUCTURAL CRITERIA. (NO DETAILED CHECK OF CALCULATIONS WILL BE MADE)
- D. THAT THE CONFIGURATION SET FORTH IN THE STRUCTURAL SUBMITTALS IS CONSISTENT WITH THE CONTRACT DOCUMENTS. (NO DETAILED CHECK OF DIMENSIONS OR QUANTITIES WILL BE MADE).
8. SUBMITTALS NOT MEETING THE ABOVE CRITERIA WILL NOT BE REVIEWED AND WILL BE RETURNED.

1334 REQUEST FOR INTERPRETATION (RFI):

1. RFI SHALL ORIGINATE WITH CONTRACTOR AND SHALL BE SUBMITTED IN THE FORM SPECIFIED WITHIN CONTRACT DOCUMENTS. RFI SHALL BE SUBMITTED IN A PROMPT MANNER AS TO AVOID DELAYS IN CONTRACTOR'S WORK.
2. RFI SHALL BE SUBMITTED AS SPECIFIED WITHIN THE CONTRACT DOCUMENTS AND SHALL BE FORWARDED TO THE ENGINEER VIA THE ARCHITECT OR DIRECTLY BY CONTRACTOR TO ENGINEER WHEN APPROVED BY THE ARCHITECT.
3. ENGINEER SHALL TAKE UP TO 5 BUSINESS DAYS TO REVIEW AND RETURN RFI'S. HOWEVER, THE ENGINEER WILL ATTEMPT TO EXPEDITE THE REVIEW OF ALL RFI'S WITHIN A REASONABLE TIME FRAME.
4. RFI RESPONSES ARE NOT INTENDED TO AUTHORIZE ANY INCREASE IN CONSTRUCTION COST, SCHEDULE OR TIME EXTENSIONS, OR CONSTRUCTION IN CONFLICT WITH ANY APPLICABLE CODES OR SPECIFIED DESIGN STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGN TEAM IMMEDIATELY OF ANY PERCEIVED SCOPE, SCHEDULE, COST IMPACTS, OR ADJUSTMENTS. IF THE CONTRACTOR REQUESTS ANY ADDITIONAL COST, INCREASE IN SCHEDULE OR ADJUSTMENT IN SCOPE, THE CONTRACTOR SHALL NOT PROCEED WITH ADDITIONAL WORK UNTIL APPROVED IN WRITING BY THE CONSTRUCTION ADMINISTRATOR.
5. IF CONTRACTOR FIELD ERRORS OCCUR, A FIELD FIX SHALL NOT BE SOLICITED TO THE DESIGN TEAM THROUGH THE RFI PROCESS. RFIs ARE INTENDED FOR THE REQUEST OF INTERPRETATION.

2310 FOUNDATIONS:

- SEE THE FOLLOWING REPORT FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES: SITE PREPARATION AND FOUNDATION INSTALLATION SHALL COMPLY WITH:
- PROJECT No. PH4150197
PREPARED BY: TERRACON
TITLED: PIER PARK
DATED: 11-04-2015
1. SHALLOW FOUNDATION DESIGN IS BASED ON A SOIL BEARING PRESSURE OF 2,500 psf. STRUCTURES BEARING ON GRADE INCLUDE:
- A. PAVILION
- B. TILTED LAWN
- C. RETAINING WALLS AT BEACH STEPS
2. SOIL PREPARATION AND COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. SITE FILL SHALL HAVE THE CRITERIA SPECIFIED IN THE GEOTECHNICAL REPORT. ALL BACKFILL UNDER STRUCTURAL SLABS SHALL BE ENGINEED BACKFILL COMPACTED IN SPECIFIED LIFTS TO 95 PERCENT OF MAX DRY DENSITY, UNLESS OTHERWISE NOTED.
3. REFER TO PRECAST PILE SHEET SPECIFICATION FOR PILE DESIGN INFORMATION.
4. STRUCTURES ON DEEP PILES INCLUDE:
- A. TILTED LAWN CANTILEVERED SLAB BY TLC ENGINEERING.
- B. PIERDECK AND OTHER STRUCTURES ON DEEP PILE FOUNDATION BY MARINE STRUCTURAL ENGINEER. REF. TO MARINE STRUCTURAL DRAWINGS FOR INFO.

2455 PRECAST PRESTRESSED CONCRETE PILES @ TILTED LAWN

1. PRESTRESSED CONCRETE PILING SHALL BE INSTALLED IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES CONTAINED IN THE FOLLOWING GEOTECHNICAL REPORT REFERENCED ABOVE.
2. THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS DESCRIBED ON THE DRAWINGS, SPECIFICATIONS, BORING LOGS, OR TEST PITS. THESE DATA ARE INCLUDED ONLY TO ASSIST THE CONTRACTOR DURING BIDDING AND SUBSEQUENT CONSTRUCTION AND REPRESENT CONDITIONS ONLY OF THESE SPECIFIED LOCATIONS AT THE PARTICULAR TIME THEY WERE MADE.
3. ALL PILES SHALL BE 24"x24" PRECAST PRESTRESSED CONCRETE WITH AN ALLOWABLE BEARING CAPACITY OF 250 TONS. SEE PLANS FOR LOCATIONS AND ESTIMATED TIP ELEVATIONS.
4. ALL PILES SHALL BE PLACED IN ACCORDANCE WITH THE FOOT SPECIFICATION AND REQUIREMENTS TO SATISFY ALL FOOT REQUIREMENTS.
5. ALL BACKFILL UNDER STRUCTURAL SLABS ON GRADE SHALL BE ENGINEERED BACKFILL COMPACTED IN SPECIFIED LIFTS TO 95 PERCENT OF MAXIMUM DRY DENSITY, UNLESS OTHERWISE INDICATED OR SPECIFIED.
6. ALL EMBANKMENTS AND BACKFILL SHALL BE COMPACTED IN SPECIFIED LIFTS TO 90 PERCENT OF MAXIMUM DRY DENSITY, UNLESS OTHERWISE INDICATED OR SPECIFIED.
7. ALL REQUIRED INSERTS, SLEEVES, CONDUITS, EMBEDMENTS, DECK SLAB DEPRESSIONS AND PENETRATIONS MUST BE VERIFIED WITH RESPECTIVE TRADES BEFORE CASTING CONCRETE.
8. TEST PILES SHOULD BE 15 FEET LONGER THAN THE ANTICIPATED PRODUCTION LENGTH FOR THE AREA.
9. CONTRACTOR SHALL PROVIDE 1 TEST PILE FOR THE TILTED LAWN WORK AREA. TEST PILES MAY BE USED FOR PRODUCTION PILES IF DRIVEN TO THE REQUIRED CAPACITY WITHOUT DAMAGE. SEE PILE SCHEDULE FOR TEST PILE LOCATIONS.
10. THE CONTRACTOR SHALL VERIFY FOUNDATION INSTALLATION AND CONSTRUCTION IS IN CONFORMANCE WITH THE RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT, WHERE THE INSTALLATION SECTION OF THE GEOTECHNICAL REPORT IS IN CONFLICT VSPECIFICATION, THE MORE STRINGENT REQUIREMENTS FOR THE CONTRACTOR APPLY.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO ADEQUATELY PROTECT ALL EXCAVATION, WHERE NECESSARY, SHEET AND SHORE THE EXCAVATION WITH ALL REQUIRED TIEBACKS AND BRACING AS DETERMINED BY THE CONTRACTOR'S STRUCTURAL ENGINEER.
12. AN AS-BUILT SURVEY OF PILE LOCATIONS SHALL BE PERFORMED BY A FLORIDA REGISTERED LAND SURVEYOR. PILES SHALL BE LOCATED ON THE AS-BUILT DRAWINGS HORIZONTALLY AND VERTICALLY FROM THE DESIGN LOCATION. SUBMIT THE AS-BUILT DRAWINGS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
13. CONTRACTOR IS RESPONSIBLE FOR ENGINEERING COSTS ASSOCIATED WITH REDESIGNS CAUSED BY IMPROPER PILE LOCATIONS.

3302 CONCRETE:

1. SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX
- FOR PORTIONS OF CONCRETE IN PT SLABS THAT REQUIRE EARLY STRENGTH, REFER TO VSL DRAWINGS FOR FC REQUIREMENTS.
- | LOCATION | STRENGTH | MAX AGGREGATE | WCM RATIO(MAX) |
|----------------------|---------------|---------------|----------------|
| PIERHEAD | | | |
| CORE WALLS | 8000 PSI | ASTM #89 | 42 |
| OTHER WALLS | 5000 PSI | ASTM #57 | 42 |
| POST-TENSIONED SLABS | REF VSL PLANS | | |
| MILD CIP SLABS | 5000 PSI | ASTM #57 | 42 |
| MILD CIP STAIR RAMPS | 5000 PSI | ASTM #57 | 42 |
| TOPPING SLABS | 3500 PSI | 3/8" | 42 |
| COLUMNS | 8000 PSI | ASTM #57 | 42 |
| POST-TENSIONED BEAMS | REF VSL PLANS | | |
| MILD CIP BEAMS | 5000 PSI | ASTM #57 | 42 |
| CURBS | 3000 PSI | ASTM #57 | 42 |
| OTHER | 5000 PSI | ASTM #57 | 45 |
| PAVILION/EDUCATION | | | |
| WALLS | 5000 PSI | ASTM #57 | 42 |
| POST-TENSIONED SLABS | REF VSL PLANS | | |
| COLUMNS | 5000 PSI | ASTM #57 | 42 |
| CURBS | 4000 PSI | ASTM #57 | 42 |
| SLAB ON GRADE | 4000 PSI | ASTM #57 | 48 |
| TOPPING SLABS | 3500 PSI | 3/8" | 48 |
| SHALLOW FOUNDATIONS | 4000 PSI | ASTM #57 | 48 |
| OTHER | 5000 PSI | ASTM #57 | 45 |
| TILTED LAWN | | | |
| RETAINING WALLS | 5000 PSI | ASTM #57 | 48 |
| POST-TENSIONED SLABS | REF VSL PLANS | | |
| SLAB ON GRADE | 4000 PSI | ASTM #57 | 48 |
| FOUNDATIONS | 4000 PSI | ASTM #57 | 48 |
| OTHER | 5000 PSI | ASTM #57 | 45 |
| KAYAK SHACK | | | |
| FOUNDATIONS | NOT NBY TLC | | |
| OTHER | 5000 PSI | ASTM #57 | 45 |

2. CALCIUM NITRATE SOLUTION SHALL BE ADDED TO ALL CONCRETE (EXCLUDING SLABS ON GRADE, FOUNDATIONS, AND OTHER) AT THE RATE OF 4.5 GAL/CUBIC YARD OF CONCRETE.
3. CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI STANDARDS AND SPECIFICATIONS. REFER TO SPECIFICATIONS FOR MIX DESIGN AND CORROSION PROTECTION INFORMATION.
4. WHERE SPECIFIED CONCRETE STRENGTH OF COLUMN IS GREATER THAN THE SPECIFIED SLAB CONCRETE STRENGTH, HIGHER STRENGTH CONCRETE SHALL BE PUDDLED AT THE COLUMN. THE STRENGTH OF PUDDLED CONCRETE SHALL BE AT LEAST 0.72 TIMES THE STRENGTH OF COLUMN CONCRETE PER ACI 318, 10.15.
5. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE.
6. CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM STANDARD C34 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.
7. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NON-COMPLIANCE WITH THE ABOVE.
8. SLABS SHALL BE CURED USING A DISSIPATING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1-CLASS D AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE, SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY.
9. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER. REFER SPECIFICATIONS FOR REQUIRED ADMIXTURES.
10. CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.
11. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318, 6.3.
12. CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED, STATISTICAL BACK-UP DATA AS PER CHAPTER 5 OF ACI 318.
13. REFER TO BOOK SPECIFICATION, 033000 FOR BALANCE OF CIP CONCRETE INFORMATION. FOR EXPLOD TO VIEW CONCRETE, REFER TO SPEC SECTION 033300.
14. FLYASH, WHEN USED, SHALL BE LIMITED TO 20% OF THE CEMENTITIOUS MATERIAL. USE HIGH RANGE WATER REDUCING ADMIXTURE TO INCREASE SLUMP. DO NOT ADD WATER IN THE FIELD WITHOUT PRIOR WRITTEN ACCEPTANCE FROM THE CONTRACTING OFFICER.
15. ALL PUMPED CONCRETE WITH 3/4" OR LARGER AGGREGATE IS TO CONTAIN HIGH RANGE WATER REDUCING AGENT. MINIMUM SIZE OF DISCHARGE TO BE 4" I.D.
16. A 2" I.D. DISCHARGE MAY BE USED WITH 3/8" AGGREGATE. USE HIGH RANGE WATER REDUCING ADMIXTURE IF NECESSARY TO INCREASE SLUMPS BEYOND THAT NOTED OTHERWISE.
17. ALL EMBEDDED ITEMS SHALL BE SECURELY TIED TO PLACE PRIOR TO CONCRETE PLACEMENT.
18. PLACE CONCRETE PER ACI 304. USE INTERNAL MECHANICAL VIBRATION FOR ALL CONCRETE. LIMIT MAXIMUM FREE FALL DROP OF COLUMN OR WALL CONCRETE TO 6'-0" FOR #57 AGGREGAT

3314 FIBER REINFORCED CONCRETE:

1. AT ALL BONDED AND UNBONDED TOPPING SLABS PROVIDE 4 LB/YD MACRO SYNTHETIC FIBER, FORTA FERRO OR EQUIVALENT.
2. AT EXTERIOR CONCRETE SLABS ON GRADE INDICATED ON TLC'S STRUCTURAL DRAWINGS, PROVIDE 3 LB/YD MACRO SYNTHETIC FIBER, FORTA FERRO OR EQUIVALENT, TYPICAL U.N.O.

3310 REINFORCING STEEL:

1. SHALL BE ASTM A618 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.
2. PROVIDE CONCRETE CLEAR COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED:
- | ITEM | COVER (INCHES) |
|------------------------|----------------|
| BEAMS | 2" |
| SLABS AND JOISTS | 2" |
| COLUMNS AND WALLS | 2" |
| FOOTINGS AND PILE CAPS | 3" |
3. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.
4. PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF ALL TOP BARS.
5. WHERE REINFORCING IS SHOWN CONTINUOUS, SPLICE BOTTOM BARS OVER SUPPORTS AND TOP BARS AT CENTER OF SPAN. ALL OTHER LAP SPICES SHALL BE IN ACCORDANCE WITH SPICE TABLES AND DETAILS SHOWN ON DRAWINGS.
6. PROVIDE DOWELS INTO FOOTINGS, PILE CAPS, SUPPORT BEAMS, ETC. TO MATCH VERTICAL BARS WITH CLASS B TENSION LAP SPICES, U.N.O.

3313 WELDABLE REINFORCING STEEL:

- ALL REINFORCING STEEL THAT WILL BE WELDED SHALL MEET THE REQUIREMENTS OF ASTM A706 GRADE 60 DEFORMED BARS.

3321 FORMWORK AND SHORING:

1. NO STRUCTURAL CONCRETE SHALL BE STRIPPED UNTIL IT HAS REACHED AT LEAST TWO-THIRDS OF THE 28-DAY DESIGN STRENGTH.
- *EXCEPTION: REFER TO VSL DRAWINGS FOR STRIPPING TIME AT POST-TENSION SLAB.
2. DESIGN, ERECTION AND REMOVAL OF ALL FORMWORK, SHORES AND RESHORES SHALL MEET THE REQUIREMENTS SET FORTH IN ACI STANDARDS 347 AND 301.

3322 CONSTRUCTION JOINTS:

1. ANY DEVIAN OR ADDITION OF CONSTRUCTION JOINTS FROM THAT SHOWN ON THE DRAWINGS MUST BE REVIEWED AND APPROVED IN WRITING BY THE ENGINEER OF RECORD.
2. ALTERNATE OR ADDED CONSTRUCTION JOINT LOCATIONS ARE ACCEPTABLE ONLY AS A CHANGE ORDER, WHICH WILL INCLUDE ENGINEERING CHARGES BY THE ENGINEER OF RECORD FOR REDESIGN OF THE STRUCTURE, SHORING, ETC.

3324 PLUMBING SLEEVES:

1. MINIMUM SLEEVE SPACING SHALL BE THREE DIAMETERS CENTER TO CENTER OF THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER.
2. PRIOR TO CONSTRUCTION ALL SLEEVE LOCATIONS AND SIZES NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE ENGINEER.
3. PLACE TWO #3 STIRRUPS @ 3" O.C. EACH SIDE OF SLEEVE PENETRATIONS IN BEAMS.

3331 POST TENSIONED SLAB AND BEAMS:

- REFER TO VSL STRUCTURAL SYSTEMS PLANS AND GENERAL NOTES FOR ALL POST TENSIONED SLABS AND BEAMS NOTES.

3400 CONCRETE TESTING:

1. AN INDEPENDENT TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST IN PLACE CONCRETE:
- A. ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE". MAXIMUM SLUMP SHALL BE IN ACCORDANCE WITH THE PROJECT CONCRETE SPECIFICATIONS.
- B. ASTM C39 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS". A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:
- | TEST AGE | TEST METHOD |
|--------------------------------|-------------|
| 1 AT 3 DAYS | |
| 1 AT 7 DAYS | |
| 2 AT 28 DAYS | |
| 1 ADDITIONAL IF REQUIRED BELOW | |
- ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28-DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.
- * REFER TO VSL DRAWINGS FOR TESTING REQUIREMENTS AT POST TENSION SLABS.

3601 CHEMICAL (ADHESIVE) ANCHORS:

1. SHALL BE AN EQUAL TWO PART EPOXY POLYMER INJECTION SYSTEM, SUCH AS RAMSEY "EPOCON", POWERS POWER-FAST CARTRIDGE SYSTEM, DUR-O-BOND "DUR-O-PAIR" EPOXY ANCHOR, OR HILTI HIT HY 200 ADHESIVE SYSTEM, OR ENGINEER APPROVED SUBSTITUTION.
2. INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
3. THE MANUFACTURER'S REPRESENTATIVE SHALL TRAIN INSTALLERS.

3602 MECHANICAL ANCHORS:

1. SHALL BE INTERNALLY THREADED, FLUSH MOUNTED EXPANSION ANCHORS SUCH AS HILTI KWIK BOLT T2 OR SIMPSON STRONG TIE OR APPROVED EQUAL. DESIGN TO PROVIDE CAPACITY IN CRACKED CONCRETE.
2. INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
3. THE MANUFACTURER'S REPRESENTATIVE SHALL TRAIN INSTALLERS.

5120 STRUCTURAL STEEL:

1. STEEL WORK SHALL BE NEW AND CONFORM TO THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS. -ALLOWABLE STRESS DESIGN AND LOAD AND RESISTANCE FACTOR DESIGN.
2. MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED:
- | ITEM | Specification |
|---------------------------------|--|
| WIDE FLANGE SHAPES | ASTM A992 (Fy = 50 KSI) |
| ANGLES, CHANNELS AND PLATE | ASTM A36 (Fy=36 KSI) OR ASTM A529 GR. 50 (SEE PLANS) |
| PIPE | ASTM A53, GRADE B (Fy=35 KSI) |
| THREADED RODS | ASTM A36 (Fy=36 KSI) |
| HEAVY HEX NUTS | ASTM A563 |
| HARDENED STEEL WASHERS | ASTM F436 |
| DIRECT TENSION INDICATORS | ASTM F1959, TYPE 325 |
| ANCHOR RODS | ASTM F1554 GR. 36 (Fy=36 KSI) OR ASTM F1554 GR. 105 (REFER TO PLANS FOR LOCATIONS) |
| HEADED STUD ANCHORS | ASTM A618 (Fy=60 KSI) |
| Twist-Off Tension Control Bolts | ASTM F1852 |
3. CONNECTIONS:
- A. BOLTS SHALL BE HIGH-STRENGTH, BEARING TYPE. TIGHTEN BY AN AISC APPROVED METHOD.
- B. WELDING ELECTRODES SHALL BE PER AWS D1.1. RETURN FILLET WELDS FOR FRAMED CONNECTIONS 1/2" AT EACH END.
- C. FIELD CONNECTIONS SHALL BE MADE WITH 3/4" BOLTS, EXCEPT AS NOTED OTHERWISE.
- D. AT THE CANOPY STRUCTURES, DESIGN BEAM CONNECTIONS TO DEVELOP THE REACTIONS SHOWN. IF NOT SHOWN, DESIGN CONNECTIONS TO DEVELOP THE REACTIONS DUE TO THE MAXIMUM ALLOWABLE UNIFORM LOAD FOR THE BEAM SIZE AND SPAN SHOWN, ASSUMING FULL LATERAL SUPPORT PER AISC BEAM (ALLOWABLE UNIFORM LOAD) TABLE VALUE FOR THE CORRESPONDING SPAN, U.N.O.
- E. CALCULATIONS AND SHOP DRAWINGS FOR STRUCTURAL STEEL CONNECTIONS SHALL BE SUBMITTED FOR APPROVAL, PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT RESIDES.
4. ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR CONDITIONS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AND ALL FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153.
5. GROUT UNDER BEARING, PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH NOT LESS THAN 10,000 PSI (28 DAYS).
6. PROVIDE SIGNED AND SEALED CALCULATIONS FOR ALL STRUCTURAL STEEL CONNECTION DESIGN PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT RESIDES. CALCULATIONS ARE TO BE SUBMITTED SIMULTANEOUSLY WITH CORRESPONDING SUBMITTAL.

TO THE BEST OF THE STRUCTURAL ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM CODES AS DETERMINED BY LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 553, FLORIDA STATUTES.