

Addendum #1

To: All Bidders

From: Nick Combs

Date: November 6, 2024

RE: Spanish Fort Center Pickleball Complex

Addendum #1

General

- The project shall be completed in **120 calendar days** following a **15 day Notice to Proceed** Period.
- Contractor team must have training and successful previous experience constructing at least 3 projects of a similar nature.
- Contractor shall remove the exercise equipment located within the project footprint. The City of Spanish Fort will handle relocation.
- Access to the park shall be maintained at all times.
- Contractor shall coordinate court surface color options with the City and Engineer prior to placement.
- The contractor shall be responsible for repairing/replacing any damaged asphalt and/or concrete within the staging area and/or along the haul route.
- Plexicushion Prestige Cushioned System will be allowed as a substitution for the required Sportmaster Procushion System
- USA Shade Joined Panorama will be allowed as a substitution for the Skyways shade sails. Full shade coverage will be required through the radius of the structure (no gaps in coverage at the columns).
- Acrytech AcryCushion Sports Surfacing System will be allowed as a substitution for the required Sportmaster Procushion System
- Putterman Pickleball Net System will be allowed as a substitution for the required Har-Tru System
- Douglas Pickleball net, posts, and windscreen will be allowed as a substitution
- Suntrends canopy Bench will be allowed as a substitution
- A logo will not be required on the canopy benches.
- Contractor shall provide shop drawings of post tensioned slab and cables to engineer for approval prior to construction
- Contractor shall be responsible for coordinating construction phasing with Cypress Equities and DR Horton
- Net posts shall be installed as shown on sheet S102 and shall not be surface mounted
- Revised structural details are attached and included with this addendum to include the following:
 - A 2' Ribbon Curb has been added to the outer perimeter and shall be where the outside fence posts are placed



- o Revised wording on Note 9.1
- Revised Exterior Fence Post Detail
- o Revised Net Post Isolation Detail
- Revised Interior Fence Post and Light Pole Detail

RFI Response Log

The following clarifications are issued in response to Requests for Information received from all bidders as of the date of this letter:

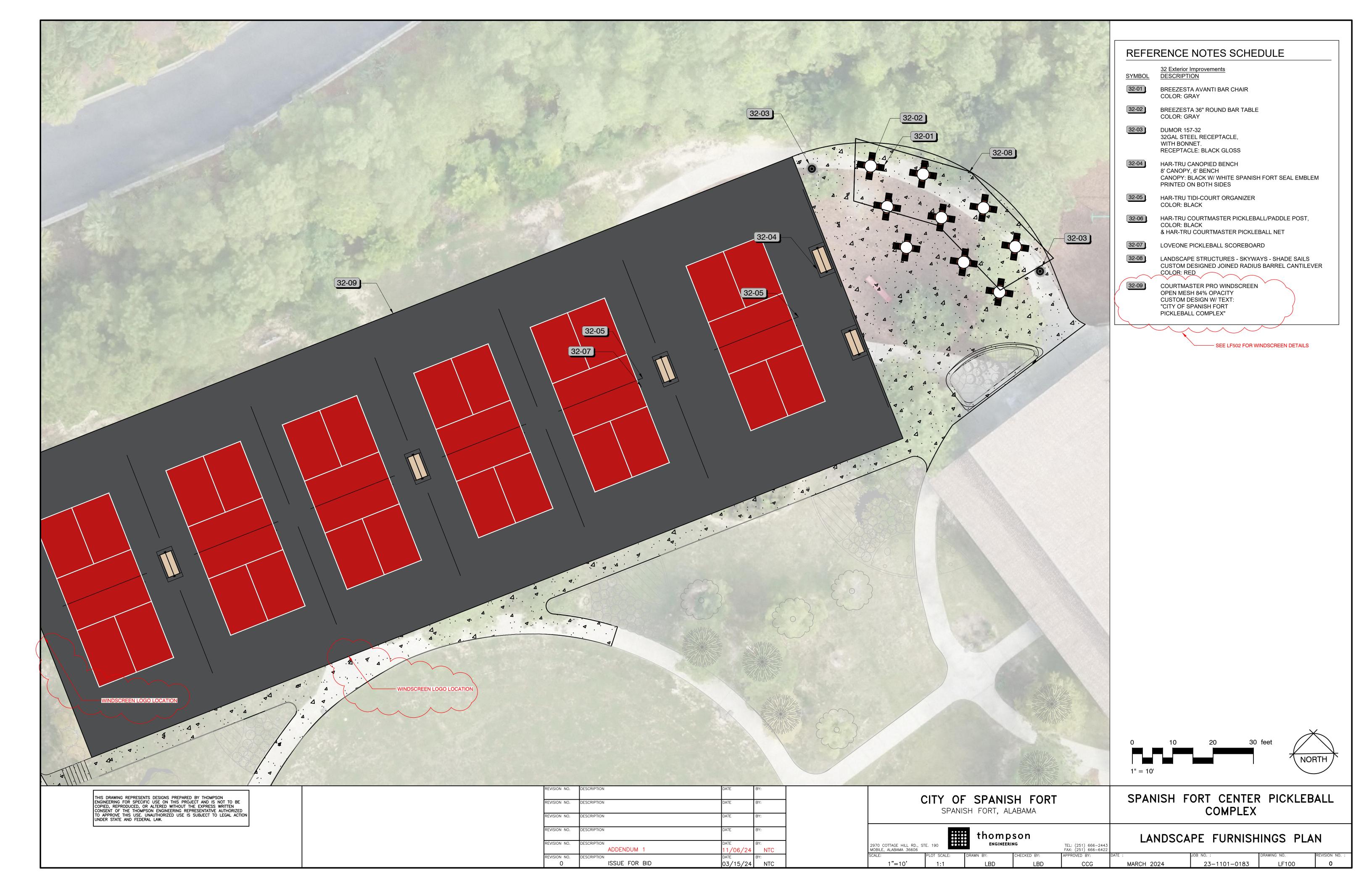
- 1. How does the raised bed drain? The plan shows 8" PVC storm pipe going to it but no details are given.
 - The raised planter bed does not have an impervious bottom and will percolate into the soil.
- 2. Does the windscreen go all the way around the perimeter fencing? The Landscape Furnishing Plan LF100 only points to the windscreen being on the North side fencing.
 - It is the intent for the required windscreen to be placed on all 7' tall outer perimeter fencing, including entry/exit gates. Please note that the eastern perimeter fencing is 3.5' tall (like the interior divider fencing) and will not require a windscreen.
- 3. The locations of the light pole and net pole footings are not shown on the slab plan. We will need the layout and locations of these footings. Can this be provided?
 - Thompson coordinate a detailed layout with the awarded contractor as needed
- 4. I want to confirm that the Duratrench, that is installed against the existing concrete, will free drain into the grass. I don't see where it connects to any storm drainage.
 - It is the intent for the required trench drain to extend around the entire perimeter of the raised planter and connect to the 8" pvc beneath grade and empty into the required grate inlet to the west.
- 5. Is this job tax exempt.
 - The contractor shall coordinate with the City to obtain tax exemption
- 6. What is the project start date?
 - It is the desire of the City to begin construction as soon as possible after contract execution. The contractor will have 15 days before time charges commence following Notice to Proceed.
- 7. What is the project completion date?
 - 120 calendar days after construction begins, or beginning 15 days after NTP, whichever occurs first.
- 8. Do we need to include sales tax? I didn't see a breakout on the bid form.
 - The contractor shall coordinate with the City to obtain tax exemption
- 9. Geotech report indicates that 12" of undercut will "likely" be required in the hatched area in Appendix A. Should we include that in our base bid or set up a unit price for undercutting?
 - The contractor will be required to undercut and backfill with structural fill the entire project footprint beginning along the fence line separating courts 4 and 5 (numbered from

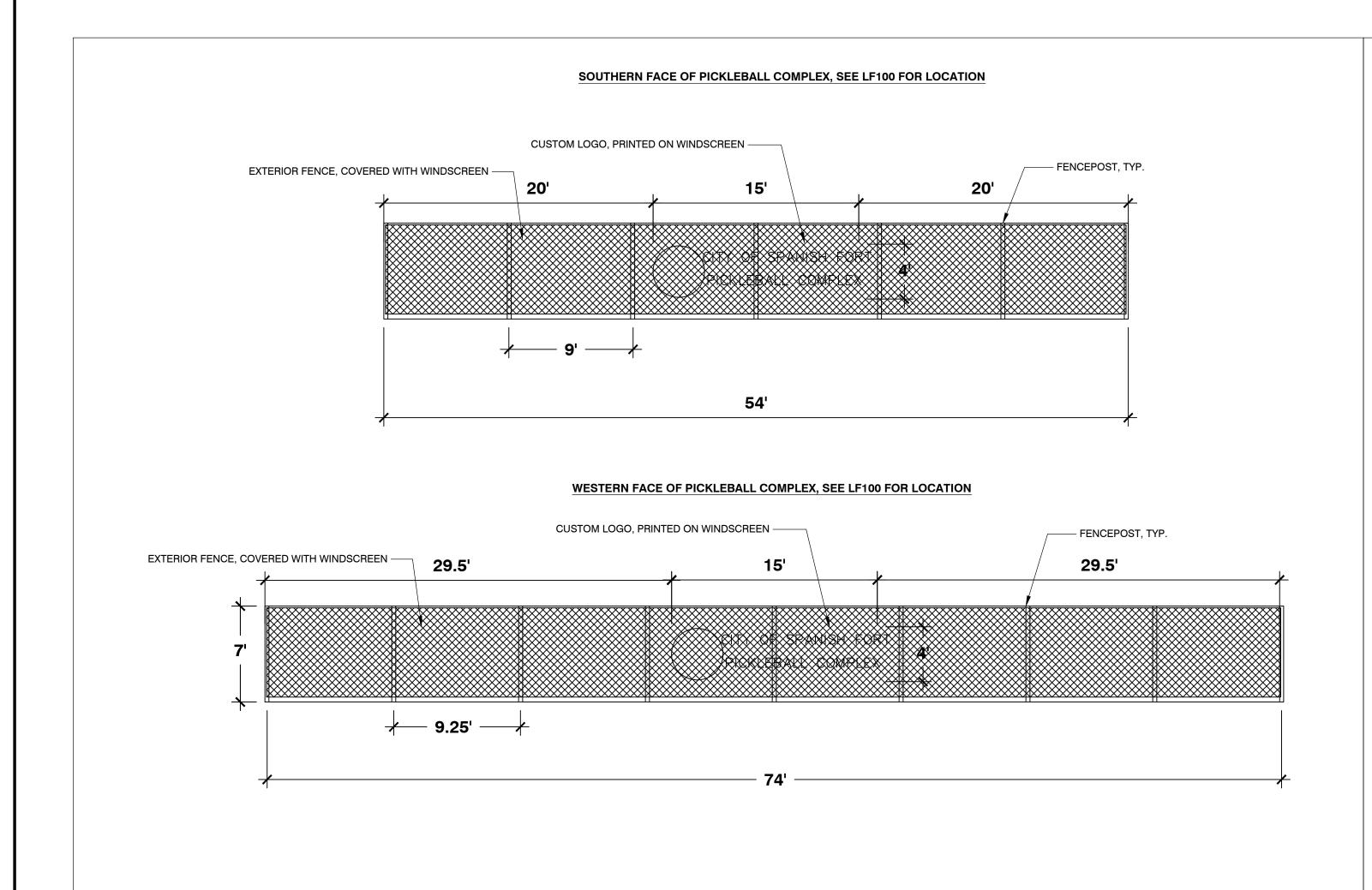


west to east; Wheelchair/adaptive court being court #6) and proceeding to the east.

- 10. The slotted trench drain does not appear to tie into the 8" PVC pipe that running next to it on Sheet C300. Can you provide clarity on if that water is supposed to go somewhere?
 - It is the intent for the required trench drain to extend around the entire perimeter of the raised planter and connect to the 8" pvc beneath grade and empty into the required grate inlet to the west.
- 11. Sheet LF100 references Note 32-06 Paddle Post but does not show it anywhere on the court. I am assuming its one per court? Just need the location.
 - Item 32-06 is the courtmaster pickleball post and net package and includes 2 posts and 1 net per court.
- 12. Can you provide the graphic for the wind screen that goes on the fence? And what wind screen wraps around the entire pad?
 - A custom logo will be required at 2 locations on the windscreen, one on the south perimeter fence and one on the west perimeter fence. A detail for the logo is attached and included with this addendum.
- 13. I didn't see a new curb install called out to replace the curb after we demo it on the street. Should we include it?
 - It shall be the responsibility of the contractor to replace the combination curb & gutter.
- 14. Are the courts subbase reinforced or post tensioned concrete?
 - The pickleball courts shall be built on a post-tensioned concrete slab. All concrete outside the courts is reinforced concrete.
- 15. Can you provide the thickness for the Typical Court Buildup? Like each layer for the Sportmaster pickle system and procushion system
 - The thickness of each layer shall be in accordance with the manufacturer's recommendations
- 16. Are the tendon ends to be encapsulated on non-encapsulated
 - Encapsulated

Sincerely,		
Thompson Engineering Inc.	SIGNED:	
Wall Comb		Company Name
Nick Combs, P.E.		
Project Engineer		
		Contractors Representative
		Date







WINDSCREEN DETAILS WINDSCREEN LOGO

THIS DRAWING REPRESENTS DESIGNS PREPARED BY THOMPSON ENGINEERING FOR SPECIFIC USE ON THIS PROJECT AND IS NOT TO BE COPIED, REPRODUCED, OR ALTERED WITHOUT THE EXPRESS WRITTEN CONSENT OF THE THOMPSON ENGINEERING REPRESENTATIVE AUTHORIZED TO APPROVE THIS USE. UNAUTHORIZED USE IS SUBJECT TO LEGAL ACTION UNDER STATE AND FEDERAL LAW.

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REVISION NO.	DESCRIPTION	DATE	BY:
REVISION NO.	DESCRIPTION ADDENDUM 1	DATE 11/06/24	BY: NTC
REVISION NO.	DESCRIPTION ISSUE FOR RID	DATE 03/15/24	BY:

CITY OF SPANISH FORT	SPANISH FORT CENTER PICKLEBAL
SPANISH FORT, ALABAMA	COMPLEX

2970 COTTAGE HILL RD., S	STE. 190	thomp		TEL: (251) 666-2443 FAX: (251) 666-6422		LANDSCAF	PE FURNISHI	ING DETA	ILS
SCALE:	PLOT SCALE:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE :		JOB NO. :	DRAWING NO.	REVISION NO
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- GENERAL REQUIREMENTS:

 1.1. THESE STRUCTURAL DRAWINGS HAVE BEEN PREPARED IN ACCORDANCE WITH THE SPECIFIED BUILDING CODE. ALL CONSTRUCTION SHALL CONFORM TO THE EDITION OF THE BUILDING
- CODE REFERENCED. REFERENCE TO OTHER SPECIFICATIONS OR CODES SHALL MEAN THE VERSION INDICATED IN THE BUILDING CODE.

 1.2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE A PORTION OF THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR AND SUBCONTRACTORS SHALL REFERENCE AND COORDINATE

WITH ALL OTHER DISCIPLINES DRAWINGS. ANY DISCREPANCIES OR OMISSIONS SHALL BE

- REPORTED TO THE ENGINEER.

 1.3. STRUCTURAL DRAWINGS SHOW TYPICAL AND CERTAIN SPECIFIC CONDITIONS ONLY AND SHALL APPLY FOR LIKE OR SIMILAR CONDITIONS UNLESS NOTED OTHERWISE. FOR CONDITIONS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS SIMILAR TO THOSE SHOWN. IF THERE IS A QUESTION REGARDING THE APPLICABILITY OF A DETAIL, CONTACT THE ENGINEER IN WRITING REQUESTING
- CLARIFICATION.

 1.4. STRUCTURAL MEMBERS SHALL NOT BE CUT, NOTCHED, CHANGED, OR MODIFIED WITHOUT THE
- WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

 5. DO NOT SCALE FOR DIMENSIONS NOT SHOWN ON THE DRAWINGS. SEND A WRITTEN REQUEST
- FOR INFORMATION TO THE ENGINEER FOR DIMENSIONS NOT PROVIDED.

 6. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE.

 UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.

 CONTRACTOR IS RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND
- PROCEDURES OF CONSTRUCTION.

 I.7. THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN ITS
 COMPLETED FORM. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, ADEQUACY,
 AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. THE ENGINEER
 WILL NOT ADVISE ON OR ISSUE DIRECTION RELATED TO SAFETY REQUIREMENTS. IT IS THE
- CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE OSHA REGULATIONS.

 1.8. DISSIMILAR METALS MUST BE SEPARATED BY A COATING SUCH AS ECK CORROSION COATING OR APPROVED EQUIVALENT, OR NEOPRENE GASKET MATERIAL TO PREVENT GALVANIC
- 1.9. WHERE SPECIFIED, POST INSTALLED ANCHORING SYSTEMS SUCH AS MANUFACTURED BY SIMPSON OR HILTI, SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. SPECIAL ATTENTION SHALL BE GIVEN TO THE DRILLING, CLEANING, AND PREPARATION OF HOLES. WHERE ADHESIVE ANCHORS ARE SHOWN, SPECIAL ATTENTION SHALL BE GIVEN TO THE REQUIRED MIXING, APPLICATION, AND CURING TIME OF THE ADHESIVE SPECIFIED.
- 1.10. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES IN THE AREA OF CONSTRUCTION THAT MIGHT BE AFFECTED BY, OR OTHERWISE INTERFERE WITH, INSTALLATION OF NEW WORK. THIS INCLUDES THOSE THAT MIGHT BE DAMAGED BY NEW FOUNDATIONS OR OTHER WORK, AND THOSE WHOSE PRESENCE MIGHT LEAD DAMAGE TO THE NEW WORK (e.g. DIFFERENTIAL SETTLEMENT).
- 2. <u>EXISTING CONDITIONS:</u>
 2.1. EXISTING CONDITIONS DEPICTED ON THESE DRAWINGS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION OR CONSTRUCTION. IN THE EVENT EXISTING CONDITIONS ARE DIFFERENT THAN SHOWN ON THE STRUCTURAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- 2.2. CONTRACTOR SHALL FIELD VERIFY CONDITIONS DEPICTED ON THESE DRAWINGS AS THEY ARE UNCOVERED DURING CONSTRUCTION. IN THE EVENT EXISTING CONDITIONS ARE DIFFERENT THAN SHOWN ON THE STRUCTURAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER IMMEDIATELY.
- 2.3. FIELD DIMENSIONS VERIFIED BY THE CONTRACTOR SHALL BE SHOWN ON THE SUBMITTED SHOP DRAWINGS.
 2.4. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING. SHORING AND
- OTHER SAFEGUARDS TO MAINTAIN ALL PARTS OF THE EXISTING WORK IN A SAFE AND UNDAMAGED CONDITION DURING THE PROCESS OF DEMOLITION AND NEW CONSTRUCTION.

 DESIGN CRITERIA:
- 3.1. GENERAL BUILDING CODE:
 - 3.1.1. INTERNATIONAL BUILDING CODE, IBC 2021 EDITION. ALL CODES BELOW ARE THE EDITION REFERENCED IN THE IBC.
- 3.2. DESIGN LOAD CRITERIA:
 - 3.2.1. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, AMERICAN SOCIETY OF CIVIL ENGINEERS, ASCE 7.
- 3.3.1. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, AMERICAN CONCRETE
- INSTITUTE, ACI 318.

 3.4. STRUCTURAL STEEL:
- 3.4.1. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AISC 360.
- 3.4.2. SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AISC 341.

4. STRUCTURAL OBSERVATIONS:

- 4.1. STRUCTURAL OBSERVATIONS ARE VISUAL OBSERVATIONS BY A STRUCTURAL ENGINEER OF THE IN-PLACE STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT THE TIME OF THE OBSERVATION.
- 5. SPECIAL INSPECTIONS:
- 5.1. SPECIAL INSPECTIONS ARE REQUIRED FOR THIS PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE BUILDING CODE. AN APPROVED SPECIAL INSPECTOR WITH QUALIFICATIONS SATISFACTORY TO THE BUILDING OFFICIAL SHALL PERFORM THE REQUIRED SPECIAL TESTS AND INSPECTIONS.
- 5.2. OBSERVATION BY THE STRUCTURAL ENGINEER'S OFFICE DOES NOT REPLACE TESTING AND INSPECTIONS BY THE TESTING AGENCY OR THE SPECIAL INSPECTOR.
- 5.3. THE COSTS OF THE SPECIAL INSPECTOR'S SERVICES SHALL BE PAID FOR BY THE OWNER. THE COSTS OF OTHER INSPECTIONS AND TESTING SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE PAID FOR BY THE CONTRACTOR.
- 5.4. THE FOLLOWING DOCUMENTS HAVE BEEN PREPARED FOR THIS PROJECT AS A PART OF THESE CONSTRUCTION DOCUMENTS:
- 5.4.1. SCHEDULE OF SPECIAL INSPECTIONS

APPROVAL PRIOR TO CONSTRUCTION.

- 5.5. THE CONTRACTOR SHALL COORDINATE THE INSPECTION SERVICES IN ACCORDANCE WITH PROGRESS OF THE WORK. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO THE INSPECTOR TO ALLOW PROPER SCHEDULING OF PERSONNEL.
- 5.6. ALL REPORTS AND SHOP CERTIFICATIONS OF SPECIAL INSPECTIONS TO BE PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP SHALL BE SUBMITTED TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISTRIBUTING THESE REPORTS TO THE SPECIAL
- INSPECTOR, THE ARCHITECT, AND THE STRUCTURAL ENGINEER IN A TIMELY MANNER.

 5.7. THE SPECIAL INSPECTOR SHALL PREPARE THE REQUIRED QUALITY ASSURANCE PLANS AND SUBMIT THE PLAN TO THE BUILDING OFFICIAL, ARCHITECT, AND STRUCTURAL ENGINEER FOR
- 5.8. ALL SPECIAL INSPECTION REPORTS SHALL BE PREPARED BY AND BEAR THE SEAL OF THE SPECIAL INSPECTOR. ALL REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL, ARCHITECT, THE STRUCTURAL ENGINEER. THE FREQUENCY OF REPORTS SHALL BE AS AGREED UPON BY THE BUILDING OFFICIAL.
- 5.9. REPORTS SHALL INDICATE THAT THE WORK WAS PERFORMED AND CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ALL NONCONFORMING ITEMS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN IF UNCORRECTED, TO THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER.
- 5.10. THE SPECIAL INSPECTOR, UPON COMPLETION OF THE WORK AND PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY, SHALL SUBMIT A SIGNED AND SEALED FINAL REPORT DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES IN THE PRIOR REPORTS.

- 6. SHOP DRAWINGS AND SUBMITTALS:
- 6.1. THE USE OR REPRODUCTION OF THE CONTRACT DRAWINGS BY ANY CONTRACTOR, SUBCONTRACTOR, OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS IS NOT PERMITTED.
- 6.2. SHOP DRAWINGS SHALL DETAIL ALL CONDITIONS IN ACCORDANCE WITH SPECIFIED STANDARDS AND THE SPECIFIC REQUIREMENTS OF THIS PROJECT AS INDICATED ON THE DRAWINGS.
- 6.3. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS SPECIFIED IN THE CONTRACT DOCUMENTS. ALL SHOP DRAWINGS MUST BE REVIEWED AND "APPROVED" BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER. REVIEW OF SHOP DRAWINGS AND OTHER SUBMITTALS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES.
- 6.4. HARDCOPY SHOP DRAWING SUBMITTALS: SUBMIT ALL SHOP DRAWINGS ON THREE PRINTS ONLY. ONE PRINT WILL BE RETURNED TO THE CONTRACTOR. ALL PRINTS REQUIRED BY THE CONTRACTOR ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE AFTER APPROVED SHOP DRAWINGS ARE RETURNED. IF ADDITIONAL PRINTS ARE SUBMITTED, THEY WILL BE RETURNED UNMARKED.
- 6.5. ELECTRONIC SHOP DRAWING SUBMITTALS: SUBMIT ALL ELECTRONIC SHOP DRAWINGS IN PDF FORMAT. REVIEWED SHOP DRAWINGS WILL BE RETURNED IN PDF FORMAT. ALL PRINTS REQUIRED BY THE CONTRACTOR ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE

SINCE THE PREVIOUS SUBMISSION IDENTIFIED BY CLOUDING OR OTHER CLEAR COMMUNICATION.

- REQUIRED BY THE CONTRACTOR ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL EMADE AFTER APPROVED SHOP DRAWINGS ARE RETURNED.

 6.6. RESUBMITTED SHOP DRAWINGS: RESUBMITTED SHOP DRAWINGS SHALL HAVE ALL CHANGES
- RE—REVIEWED SHOP DRAWINGS WILL ONLY BE REVIEWED FOR IDENTIFIED CHANGES.

 6.7. SHOP DRAWINGS: SEE THE RELATED MATERIAL SECTION FOR THE REQUIRED SUBMITTALS AND SHOP DRAWINGS.
- 7. SOILS, SLABS, WALLS, AND SHALLOW FOUNDATIONS:
- 7.1. A GEOTECHNICAL ENGINEER SHALL PROVIDE COMPACTED FILL REQUIREMENTS FOR THE BUILDING PAD AND REVIEW THE FOUNDATION BEARING SURFACE TO VERIFY THE ASSUMED ALLOWABLE BEARING PRESSURE NOTED. DO NOT PLACE CONCRETE PRIOR TO GEOTECHNICAL ENGINEER'S APPROVAL.
- 7.2. ASSUMED MAXIMUM ALLOWABLE BEARING PRESSURES (PSF):
- 7.3. BEARING SURFACES SHALL BE REVIEWED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE TO ENSURE THEIR COMPLIANCE WITH THE PRESSURES NOTED, THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS, AND THE GEOTECHNICAL REPORT. IN THE ABSENCE OF SPECIFIC REQUIREMENTS, A DYNAMIC CONE PENETROMETER TEST (ASTM STP-399) SHALL BE PROVIDED AT EACH ISOLATED COLUMN FOOTING AND A MAXIMUM OF EVERY 50' OF CONTINUOUS FOUNDATION AND/OR THICKENED SLAB TO VERIFY BEARING CAPACITY. SOILS DEEMED UNSUITABLE SHALL BE UNDERCUT TO COMPETENT MATERIAL, BACKFILLED WITH AN APPROVED AND PROPERLY COMPACTED MATERIAL, AND RETESTED.
- 7.4. ALL FOOTING ELEVATIONS ARE ESTIMATED AND MAY BE ADJUSTED IN THE FIELD BY THE GEOTECHNICAL ENGINEER.
- 7.5. COMPACTED FILL SHALL MEET THE REQUIREMENTS NOTED IN THE GEOTECHNICAL REPORT.
- 7.6. WHEN EXCAVATIONS APPROACH THE GROUND WATER TABLE, THE WATER LEVEL SHALL BE LOWERED BY AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2' BELOW THE EXCAVATION DURING CONSTRUCTION.
- 7.7. CONTRACTOR SHALL FOLLOW THE SITE WORK AND SUBGRADE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT.
- 7.8. PROVIDE 4" COMPACTED GRANULAR FILL BENEATH ALL EARTH SUPPORTED SLABS. PROVIDE 2 LAYERS OF A MINIMUM 10 MIL VAPOR BARRIER BETWEEN BOTTOM OF SLAB AND TOP OF GRANULAR FILL
- 7.9. PROVIDE ½" P.E.J FILLER AROUND PERIMETER OF SLABS WHERE THEY ABUT VERTICAL SURFACES AND AT COLUMN ISOLATION JOINTS AS DETAILED.
- 7.10. SEE PROJECT SPECIFICATIONS FOR FLOOR FLATNESS AND FLOOR LEVELNESS REQUIREMENTS
- 7.11. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT, AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS.
- 7.12. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS AND FROM PONDING ON PREPARED SUBGRADES AND SLABS. DO NOT USE FOUNDATION EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.
- 7.13. DEWATER EXCAVATIONS AND REMOVE ANY WET MATERIAL PRIOR TO THE PLACING OF
- 7.14. IMMEDIATELY NOTIFY THE OWNERS REPRESENTATIVE AND ENGINEER IF UNUSUAL SOIL CONDITIONS ARE FOUND.

8. <u>CONCRETE</u>

- 8.1. ALL CONCRETING OPERATIONS SHALL COMPLY WITH ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- 8.2. DETAIL CONCRETE REINFORCEMENT AND ACCESSORIES IN ACCORDANCE WITH ACI 315 "DETAILING MANUAL".
- 8.3. THE CONTRACTOR SHALL SUBMIT FOR THE STRUCTURAL ENGINEER'S REVIEW SHOP DRAWINGS FOR THE FOLLOWING ITEMS. ITEMS MARKED (#) SHALL BE SUBMITTED FOR THE STRUCTURAL ENGINEER'S RECORD ONLY.

8.3.1. CONCRETE MIX DESIGNS

8.3.2. CONCRETE REINFORCING

- 8.4. CONTRACTOR SHALL NOT FABRICATE OR PLACE REINFORCEMENT UNTIL REINFORCEMENT SHOP DRAWINGS, REVIEWED AND STAMPED BY THE STRUCTURAL ENGINEER, ARE RECEIVED ON THE JOB SITE. SHOP DRAWINGS SHALL CONSIST OF BOTH "CUT" AND PLACEMENT SHEETS. PLACEMENT SHEETS SHALL CONTAIN ALL INFORMATION NECESSARY TO POSITION ALL REINFORCING STEEL IN THE FIELD WITHOUT HAVING TO REFER TO THE STRUCTURAL DRAWINGS. ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL NOT BE COPIED OR REPRODUCED FOR USE AS SHOP DRAWINGS.
- 8.5. A QUALITY ASSURANCE PROGRAM CONSISTING OF SUBMITTALS, TESTING, AND INSPECTIONS SHALL BE USED TO VERIFY THAT CONSTRUCTION IS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. MATERIAL QUALITY, HANDLING, STORAGE, PREPARATION, PLACEMENT, AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE BUILDING CODE.
- 8.6. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE OWNER'S TESTING LABORATORY. RESPONSIBILITY FOR OBTAINING THE REQUIRED CONCRETE DESIGN STRENGTH IS THE CONTRACTOR'S.
- 8.7. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
- 8.8. REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706.
- 8.9. TIE ALL REINFORCING STEEL AND EMBEDMENT'S SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS INTO WET CONCRETE IS NOT PERMITTED.
- 8.10. WELDED WIRE REINFORCEMENT (WWR) SHALL CONFORM TO ASTM A1064. MINIMUM LAP AND EMBEDMENT TO BE THE GREATER OF ONE CROSS WIRE SPACING PLUS 2" OR 8". WWR SHALL BE SUPPLIED IN FLAT SHEETS (NOT ROLLS).
- 8.11. WELDED WIRE REINFORCEMENT SHALL BE SUFFICIENTLY SUPPORTED TO HOLD IT IN PLACE WITHIN ALLOWABLE TOLERANCES DURING THE PLACEMENT OF CONCRETE. WWR LOCATION SHALL NOT BE AFFECTED BY CONCRETE PLACEMENT, WORKER ACTIVITY, CONSOLIDATION, OR FINISHING.
- 8.12. DEFORMED BAR ANCHORS (DBA'S) SHALL CONFORM TO ASTM A496. DBA'S SHALL BE AUTOMATICALLY END WELDED USING MANUFACTURERS RECOMMENDED PROCEDURES, EQUIPMENT,

- FLUX, AND FERRULES. DBA'S SHALL BE NELSON FLUXED DBA'S OR APPROVED ALTERNATE. 8.13. SEE CONCRETE MIX DESIGN SCHEDULE FOR REQUIRED CONCRETE STRENGTH AND PROPERTIES.
- 8.14. SEE SECTIONS AND DETAILS FOR CONCRETE COVER. FOR CONCRETE COVERS NOT INDICATED IN SECTIONS AND DETAILS, SEE CONCRETE COVER SCHEDULE FOR REQUIRED STEEL COVERAGE.
- 8.15. THE USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
- 8.16. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4 INCH CHAMFER.
- 8.17. CONSTRUCTION JOINTS IN A HORIZONTAL PLANE ARE NOT PERMITTED.
- 8.18. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS. MAKE ALL REINFORCING CONTINUOUS THROUGH CONSTRUCTION JOINTS. CONTROL JOINTS FOR CONCRETE SLABS ON GRADE SHALL BE AS DETAILED AND LOCATED AS SHOWN IN THE CONSTRUCTION DOCUMENTS.
- 8.19. COAT ALL SLABS WITH CURING COMPOUND WITHIN 24 HOURS OF PLACING. PRODUCT USED SHALL CONFORM WITH ASTM C309, AND SHALL BE COMPATIBLE WITH ADHERED FINISHES. A DISSIPATING FORMULATION SHALL BE USED AT CEMENTITIOUS FINISHES.
- 8.20. SLAB JOINTS SHALL BE FILLED WITH AN APPROVED MATERIAL. THIS SHOULD TAKE PLACE AS LATE AS POSSIBLE, PREFERABLY 4 TO 6 WEEKS AFTER THE SLAB HAS BEEN CAST. PRIOR TO FILLING, REMOVE ALL DEBRIS FROM THE SLAB JOINTS, THEN FILL IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AS FOLLOWS: 6" SLABS FILL WITH EPOXY RESIN, OTHER SLABS FILL WITH FIELD MOLDED OR ELECTROMETRIC SEALANT.
- 8.21. DO NOT PLACE PIPES OR DUCTS EXCEEDING ONE—THIRD THE SLAB OR WALL THICKNESS WITHIN THE SLAB UNLESS SPECIFICALLY SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS.
- 8.22. SEE SCHEDULES, SECTION NOTES, GENERAL NOTES, SECTIONS, AND DETAILS FOR ACTUAL REINFORCING REQUIRED.
- 8.23. ALL SPLICES SHALL BE CLASS "B" TENSION LAP SPLICE, UNLESS NOTED OTHERWISE.
- 8.24. WHERE REINFORCING BARS ARE NOTED AS CONTINUOUS, THE FOLLOWING REQUIREMENTS APPLY:
- 8.24.1. THE TERMINATION OF ALL CONTINUOUS REINFORCING BAR RUNS SHALL BE A STANDARD HOOK UNLESS NOTED OTHERWISE.
- 8.24.2. SPLICES IN CONTINUOUS TOP BARS SHALL OCCUR OVER PARALLEL WALLS OR AT THE CENTER OF THE CLEAR SPAN.
- 8.24.3. SPLICES IN CONTINUOUS BOTTOM BARS SHALL OCCUR OVER PERPENDICULAR WALLS OR CENTERED OVER COLUMNS.
- 8.25. HOOKS IN REINFORCING ARE IN ADDITION TO THE LENGTH SHOWN.
- 8.26. FIELD BENDING OF BARS LARGER THAN #4 IS NOT PERMITTED. ALL BENDS FOR BARS LARGER THAN #4 SHALL BE SHOP MADE COLD BENDS.

9. POST TENSIONING:

- THE CONTRACTOR SHALL SUBMIT FOR THE STRUCTURAL ENGINEER'S REVIEW SHOP DRAWINGS INDICATING CABLE LAYOUT AND QUANTITY, SEATS, ANCHORS, AND ADDITIONAL STEEL AS WELL AS CALCULATIONS TO SUBSTANTIATE THE P.T. STRAND SIZE, LOCATION AND SPACING. CALCULATIONS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
- 9.2. THE POST-TENSIONING SUPPLIER SHALL SUBMIT TO THE STRUCTURAL ENGINEER CALCULATIONS TO SUBSTANTIATE THE STRESSING PROCEDURE. CALCULATIONS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
- 9.3. STRESSING RECORDS: STRESSING OPERATIONS SHALL BE OBSERVED BY THE TESTING AGENCY. A RECORD OF ALL STRESSING FORCES AND FIELD MEASURED ELONGATIONS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER WITHIN 24 HOURS.
- 9.4. STRESSING OF TENDONS MAY COMMENCE WHEN CONCRETE HAS A COMPRESSIVE STRENGTH EQUAL TO 75% OF THE SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
- 9.5. POST-TENSIONING TENDONS: UNBONDED, MONO-STRAND TENDON SYSTEM. LOW-RELAXATION STRANDS SHALL CONFORM TO ASTM A416, LATEST REVISION, WITH A MINIMUM ULTIMATE STRENGTH OF 270,000 PSI. SLAB TENDON DIAMETER (IN) 0.59.06. DRILLED CONCRETE ANCHORS, POWER DRIVEN ANCHORS, AND CORING OF SLABS WILL NOT BE PERMITTED WITHOUT CONSENT OF THE STRUCTURAL ENGINEER. ALL OPENINGS AND/OR SLEEVES MUST BE SHOWN ON THE SHOP DRAWINGS. ANY ADDITIONAL OPENINGS NOT SHOWN ON THE APPROVED DRAWINGS WILL REQUIRE APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO PLACEMENT.

 9.7. THE POST-TENSIONING SUPPLIER SHALL DESIGN AND FURNISH ALL ADDITIONAL REINFORCING
- BARS REQUIRED FOR SUPPORT OF TENDONS AND ANCHORAGES AND TO RESIST BURSTING, SPLITTING, AND SPALLING INDUCED BY TENDON ANCHORAGES. SHIFTING OF BEAM STIRRUPS FOR TENDON SUPPORT WILL NOT BE ALLOWED.
- 9.8. TENDON FORCES SHOWN ON THE DRAWINGS ARE EFFECTIVE FORCES AFTER ALL LOSSES. ALL PRESTRESS LOSSES SHALL BE CALCULATED BY SUPPLIER AND COMPENSATED FOR IN THE NUMBER OF TENDONS PROVIDED.
- 9.9. CUT TENDONS AND PACK ALL POST-TENSIONING POCKETS WITH NON-SHRINK GROUT AFTER REVIEW AND ACCEPTANCE OF STRESSING RECORDS.
- 9.10. IN THE EVENT OF BROKEN TENDONS OR BLOW-OUTS, THE POST-TENSIONING CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE STRUCTURAL ENGINEER DETAILED CALCULATIONS AND PROCEDURES FOR THE REMEDIAL WORK REQUIRED.
- 9.11. ANY DAMAGE DONE TO THE GALVANIZING OR PLASTIC COATING OF CABLES DURING THE INSTALLATION PROCESS SHALL BE REPAIRED.

10. POST INSTALLED ANCHORS:

- 10.1. POST INSTALLED ANCHORS SHALL COMPLY WITH ACI-318.
- 10.2. POST INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE GENERAL CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USING POST INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST—IN—PLACE ANCHORS.
- 10.3. ACCEPTABLE MANUFACTURERS SHALL INCLUDE BUT ARE NOT LIMITED TO HILTI, INC. AND SIMPSON STRONG—TIE COMPANY. INC.
- 10.4. CARE SHALL BE TAKEN IN PLACING POST INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR.
- 10.5. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SHOWN SHALL BE SUBMITTED BY THE CONTRACTOR ALONG WITH PREPARED DOCUMENTATION DEMONSTRATING EQUAL SUBSTITUTION THAT THE PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.
- 10.6. THE CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S INSTALLATION GUIDELINES, SPECIFICATIONS, AND RECOMMENDATIONS.
- 10.7. A REPRESENTATIVE OF THE POST-INSTALLED ANCHOR MANUFACTURER SHALL BE PRESENT FOR THE FIRST INSTALLATION OF EACH TYPE OF ANCHOR USED TO DEMONSTRATE AND INSTRUCT TO THE CONTRACTOR'S INSTALLATION CREW AND PERSONNEL THE PROPER METHOD OF INSTALLATION. SHOULD THE CONTRACTOR CHANGE INSTALLATION CREW OR INDIVIDUALS INSTALLING THE ANCHOR, THE MANUFACTURER'S REPRESENTATIVE SHALL BE NOTIFIED BY THE CONTRACTOR TO RETURN AND PROVIDE INSTRUCTION TO THE NEW INSTALLER(S).
- 10.8. MECHANICAL ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI-355.2 AND ICC-ES AC193.
- 10.9. ADHESIVE ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI355.4 AND ICC—ES AC308.
- 10.10. MECHANICAL AND CONCRETE SCREW ANCHORS FOR USE IN SOLID-GROUTED CONCRETE

- MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR ICC-ES AC106, RESPECTIVELY.
- 10.11. ADHESIVE ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58 OR AC60.
- 10.12. SCREW ANCHORS FOR USE IN HOLLOW CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ICC-ES AC106.
- 10.13. ADHESIVE ANCHORS WITH SCREEN TUBES SHALL BE TESTED AND QUALIFIED IN ACCORDANCE WITH ICC—ES AC58 OR AC60, AS APPROPRIATE. THE APPROPRIATE SCREEN TUBE SHALL BE USED AS RECOMMENDED BY THE ADHESIVE MANUFACTURER.

11. FOUNDATION QUALITY CONTROL:

12. CONCRETE QUALITY CONTROL

- 11.1. BEARING ELEVATIONS: THE TOP ELEVATION OF ALL FOOTINGS IS SHOWN ON THE DRAWINGS FOR BID PURPOSES. THE FINAL BEARING ELEVATIONS MAY VARY AS REQUIRED TO PROVIDE PROPER BEARING CAPACITY IN AN APPROVED BEARING STRATUM AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
- 11.2. FIELD INSPECTION OF BEARING STRATUM: THE BEARING STRATUM OF EACH SPREAD FOOTING SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO POURING OF CONCRETE.
- 11.3. FOOTINGS SHALL BE NEATLY EXCAVATED WHERE POSSIBLE WITH SIDES AND TOP EDGES FREE OF LOOSE OR WET MATERIALS. WHERE NEAT EXCAVATION IS NOT POSSIBLE, FOOTING EXCAVATION SHALL BE OPEN CUT WITH EDGES FORMED AND BRACED. ALL FOOTINGS WITH FORMED EDGES SHALL BE BACKFILLED FROM BOTTOM TO TOP OF FOOTING WITH LEAN CONCRETE. THE BOTTOM EXCAVATION SHALL BE CLEAN AND DRY WITH ALL LOOSE MATERIAL REMOVED FOR AN ESSENTIALLY FLAT BEARING SURFACE. EXCAVATIONS SHALL NOT BE LEFT OVERNIGHT UNLESS A 2" UNREINFORCED CONCRETE SEAL (MUD) SLAB IS PLACED AT THE BOTTOM OF THE FOOTING EXCAVATION. WHERE SOFT OR UNSUITABLE BEARING SURFACES ARE ENCOUNTERED, THE AREA SHALL BE UNDERCUT AS REQUIRED AND REPLACED WITH LEAN CONCRETE OR COMPACTED DENSE GRADED CRUSHED STONE AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- 11.4. ALL BACKFILL SHALL BE ENGINEERED FILL AS DEFINED IN THE GEOTECHNICAL REPORT. EXCAVATED MATERIAL MAY BE USED AS BACKFILL MATERIAL WITH WRITTEN APPROVAL FROM THE GEOTECHNICAL ENGINEER STATING THAT SUCH MATERIAL IS SUITABLE AS BACKFILL AND INSTRUCTIONS ARE GIVEN FOR PROPER MOISTURE CONTENT AND COMPACTION. THE TESTING AGENCY APPROVAL AND INSTRUCTIONS FOR COMPACTION SHALL BE SUBMITTED TO THE GEOTECHNICAL ENGINEER FOR REVIEW.
- 12.1. ALL CONCRETE TO BE AIR ENTRAINED SHALL USE AIR—ENTRAINING ADMIXTURE AT THE MANUFACTURER'S PRESCRIBED RATE TO RESULT IN CONCRETE AT THE POINT OF PLACEMENT HAVING A TOTAL AIR CONTENT AS NOTED ABOVE.
- 12.2. CONCRETE AGGREGATES SHALL CONFORM TO ASTM C33. NORMAL WEIGHT CONCRETE
 - AGGREGATES MAY BE EITHER GRAVEL OR LIMESTONE UNLESS SPECIFIED.
- 12.3. WATER FOR CONCRETE SHALL BE CLEAN, FRESH, AND DRINKABLE.12.4. CEMENT SHALL CONFORM TO THE SPECIFICATION FOR PORTLAND CEMENT, ASTM C150, TYPE
- (NORMAL).

 12.5. UNLESS ACCEPTED BY THE STRUCTURAL ENGINEER, USE ONE BRAND OF CEMENT THROUGHOUT THE PROJECT.
- 12.6. AN INDEPENDENT TESTING AGENCY SHALL PREPARE DESIGN MIXES FOR EACH TYPE AND STRENGTH OF CONCRETE BY EITHER LABORATORY TRIAL MIXTURES OR FIELD EXPERIENCE METHODS AS SPECIFIED IN ACI 318.
- 12.7. CONCRETE MIX DESIGNS MUST BE SUBMITTED A MINIMUM OF 15 DAYS PRIOR TO THE START OF THE WORK FOR STRUCTURAL ENGINEER'S ACCEPTANCE. ANY ADJUSTMENT IN APPROVED MIX DESIGNS INCLUDING CHANGES IN ADMIXTURES MUST BE SUBMITTED IN WRITING TO THE STRUCTURAL ENGINEER FOR ACCEPTANCE PRIOR TO USE IN THE FIELD.
- 12.8. CONCRETE DESIGNED TO BE PUMPED SHALL BE SO NOTED ON THE MIX DESIGNS AND SHALL HAVE MIX PROPORTIONS COMPATIBLE WITH THE PUMPING PROCESS.
- 12.9. USE ONLY ADMIXTURES APPROVED BY THE STRUCTURAL ENGINEER AND CONTAINING NO CHLORIDE IONS.
- 12.10. THE CONTRACTOR SHALL EMPLOY A TESTING AGENCY TO PERFORM THE REQUIRED TESTS AND TO SUBMIT THE TEST REPORTS.12.11. DURING PLACEMENT OF CONCRETE SAMPLE AND TEST CONCRETE FOR QUALITY CONTROL AS
- FOLLOWS:
 12.11.1. CONCRETE SAMPLING: ASTM C172, EXCEPT MODIFIED FOR SLUMP TO COMPLY WITH
- 12.11.2. CONCRETE SLUMP: ASTM C143, ONE TEST FOR EACH SET OF COMPRESSIVE STRENGTH TEST SPECIMENS.
- 12.11.3. AIR CONTENT: ASTM C173, VOLUMETRIC METHOD FOR LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE; ASTM C231 PRESSURE FOR NORMAL WEIGHT CONCRETE; ONE FOR EACH SET OF COMPRESSIVE STRENGTH TEST SPECIMENS.
- 12.11.4. CONCRETE TEMPERATURE: TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEGREES F
 (4 DEGREES C) AND BELOW, AND WHEN 80 DEGREES F (27 DEGREES C) AND ABOVE,
 AND EACH TIME A SET OF COMPRESSION TEST SPECIMENS ARE MADE.

 12.11.5. COMPRESSIVE TEST SPECIMEN: ASTM C31, ONE SET OF FOUR STANDARD CYLINDERS
- FOR EACH COMPRESSIVE STRENGTH TEST, UNLESS DIRECTED OTHERWISE. MOLD AND STORE CYLINDERS FOR LABORATORY CURED TEST SPECIMENS EXCEPT WHEN FIELD—CURE TEST SPECIMENS ARE REQUIRED.

 12.11.6. COMPRESSIVE STRENGTH TESTS: ASTM C39, ONE SET FOR EACH 50 CUBIC YARDS OR
- EACH 5,000 SQ. FT. OF SURFACE AREA PLACED. TEST ONE SPECIMEN AT 7 DAYS, TWO SPECIMENS AT 28 DAYS, AND RETAIN ONE SPECIMEN IN RESERVE FOR LATER TESTING IF REQUIRED.

 12.11.7. WHEN FREQUENCY OF TESTING WILL PROVIDE LESS THAN 5 STRENGTH TESTS FOR A

FRACTION THEREOF, OF EACH CONCRETE CLASS PLACED IN ANY ONE DAY OR FOR

GIVEN CLASS OF CONCRETE, CONDUCT TESTING FROM AT LEAST 5 RANDOMLY SELECTED

- BATCHES OR FROM EACH BATCH IF FEWER THAN 5 ARE USED.

 12.11.8. WHEN STRENGTH OF FIELD—CURED CYLINDERS IS LESS THAN 85 PERCENT OF COMPANION LABORATORY—CURED CYLINDERS, EVALUATE CURRENT OPERATIONS AND PROVIDE CORRECTIVE PROCEDURES FOR PROTECTING AND CURING THE IN—PLACE
- 12.11.9. STRENGTH LEVEL OF CONCRETE WILL BE CONSIDERED SATISFACTORY IF AVERAGES OF SETS OF THREE CONSECUTIVE STRENGTH TEST RESULTS EQUAL OR EXCEED SPECIFIED COMPRESSIVE STRENGTH, AND NO INDIVIDUAL STRENGTH TEST RESULT FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI.
- 12.12. TEST RESULTS WILL BE REPORTED IN WRITING TO THE OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND CONTRACTOR. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AGENCY, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIAL; COMPRESSIVE BREAKING STRENGTH AND TYPE OF BREAK FOR BOTH 7-DAY TESTS AND 28-DAY TESTS.
- 12.13. NONDESTRUCTIVE TESTING: IMPACT HAMMER, SONOSCOPE, OR OTHER NONDESTRUCTIVE DEVICE MAY BE PERMITTED BUT SHALL NOT BE USED AS THE SOLE BASIS FOR ACCEPTANCE OR REJECTION
- 12.14. ADDITIONAL TESTS: THE TESTING AGENCY SHALL MAKE ADDITIONAL TESTS OF IN-PLACE CONCRETE WHEN TEST RESULTS INDICATE SPECIFIED CONCRETE STRENGTHS AND OTHER CHARACTERISTICS HAVE NOT BEEN ATTAINED IN THE STRUCTURE, AS DIRECTED BY THE STRUCTURAL ENGINEER. CONTRACTOR SHALL PAY FOR SUCH TESTS CONDUCTED AND ANY OTHER ADDITIONAL TESTING AS MAY BE REQUIRED WHEN UNACCEPTABLE CONCRETE IS VERIFIED.

THIS DRAWING REPRESENTS DESIGNS PREPARED BY THOMPSON ENGINEERING FOR SPECIFIC USE ON THIS PROJECT AND IS NOT TO BE COPIED, REPRODUCED, OR ALTERED WITHOUT THE EXPRESS WRITTEN SPANISH FORT CENTER CITY OF SPANISH FORT PICKLEBALL COMPLEX SPANISH FORT, ALABAMA ONSENT OF THE THOMPSON ENGINEERING REPRESENTATIVE AUTHORIZED TO APPROVE THIS USE. UNAUTHORIZED USE IS SUBJECT TO LEGAL ACTION JNDER STATE AND FEDERAL LAW. EVISION NO. STRUCTURAL thompson GENERAL NOTES ENGINEERING TEL: (251) 666-2445 FAX: (251) 666-6422 2970 COTTAGE HILL RD., STE. ADDENDUM 11/6/24 MOBILE, ALABAMA 36606 ISSUE FOR BID 3/15/24 RAH DECEMBER 2023 23-1101-0183 S001

FABRICATORS (IBC 1704.2.5)					
ITEM	FREQUENCY	EXTENT / COMMENTS			
PROCEDURES OF THE FOLLOWING FABRICATORS FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE FABRICATOR'S SCOPE OF WORK: STEEL FABRICATOR, COLDFORMED TRUSS FABRICATOR, WOOD TRUSS FABRICATOR, PRECAST CONCRETE SUPPLIER.	PERIODIC	FABRICATORS, IF REGISTERED AND APPROVED BY THE BUILDING OFFICIAL OR AN APPROVED AGENCY, SHALL SUBMIT REPORTS AND CERTIFICATES OF COMPLIANCE TO THE BUILDING OFFICIAL UPON COMPLETION OF FABRICATION. THE CERTIFICATE OF COMPLIANCE MUST STATE THAT FABRICATED ITEMS WERE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.			
SOILS CONSTRUCTION (IBC 1705.6)					
ITEM	FREQUENCY	EXTENT / COMMENTS			
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC	AS RECOMMENDED IN APPROVED SOILS REPORT AND CONTAINED IN THE CONSTRUCTION DOCUMENTS.			
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC				
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	PERIODIC				
DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONTINUOUS				
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC				
VERIFY ASSUMED BEARING CAPACITIES AND DETERMINE SETTLEMENTS OF SOILS BENEATH FOOTINGS AND BUILDING PAD.	PERIODIC				
CONCRETE CONSTRUCTION (IBC 1705.3)					
ITEM CONTINUOUS FOOTINGS ARE EXCEPTED FROM INSPECTIONS.	FREQUENCY	EXTENT / COMMENTS			
BUT NOT MATERIALS TESTING. NON-STRUCTURAL SLABS ON GRADE (PATIOS, DRIVEWAYS, AND SIDEWALKS) AND PRESTRESSED SLABS ON GRADE WHERE THE EFFECTIVE PRESTRESS IN THE CONCRETE IS LESS IHAN 150 PSI, ARE EXCEPTED FROM INSPECTIONS, BUT NOT MATERIALS TESTING.					
VERIFY TYPE, GRADE, SIZE, CLEANLINESS, LOCATION,	PERIODIC				
PLACEMENT, AND SPACING OF REINFORCING STEEL. VERIFY LAP LENGTHS, BENDS, TIES, STIRRUPS AND CONNECTORS.	LINODIC				
INSPECT ANCHORS POST-INSTALLED IN HARDENED		INSPECT ACCORDING TO RESEARCH REPORT FOR THE ANCHOR ISSUED			
CONCRETE MEMBERS. INSPECT POST-INSTALLED ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	CONTINUOUS				
MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a	PERIODIC				
VERIFY THAT CORRECT CONCRETE DESIGN MIX IS BEING USED.	PERIODIC	FOR EACH POUR.			
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STENGTH TESTS, PERFORM SLUMP TEST AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	CONTINUOUS	DURING PLACEMENT OPERATIONS. REFERENCE CONCRETE SPECIFICATIONS FOR SPECIFIC TESTS AND FREQUENCIES.			
NSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS				
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC	MONITOR DURING HOT, COLD AND WINDY CONDITIONS. REFERENCE CONCRETE SPECIFICATIONS.			
VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE.	PERIODIC	PRIOR TO TENSIONING OPERATIONS,			
VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF FORMS AND SHORES FROM BEAMS AND STRUCTURAL SLABS.	PERIODIC	PRIOR TO FORM OR SHORING REMOVAL.			
NSPECT CONCRETE FORMWORK EXCEPT AS NOTED ABOVE FOR PROPER SHAPE, LOCATION AND DIMENSIONS. VERIFY THAT CONSTRUCTION JOINTS ARE PROPERLY KEYED. VERIFY THAT SLAB RECESSES, IF ANY, HAVE BEEN INSTALLED.	PERIODIC	PRIOR TO EACH POUR.			
MEASURE FLOOR AND SLAB FLATNESS AND LEVELNESS ACCORDING TO ASTM E 1155.	PERIODIC	FOR EACH POUR. DO NOT SUBMIT REPORTS TO BUILDING OFFICIAL.			
	PERIODIC	PRIOR TO BACKFILLING OPERATIONS.			

NOTE: THE INSPECTION AND TESTING AGENT(S) SHALL BE ENGAGED BY THE OWNER OR THE OWNER'S AGENT AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL PRIOR TO COMMENCING WORK. THE QUALIFICATIONS OF THE INSPECTION AGENT(S) ARE SUBJECT TO APPROVAL BY THE BUILDING OFFICIAL.

NOTES

CONTINUOUS: THE INSPECTOR IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.

PERIODIC: THE INSPECTOR IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.

OBSERVE: THE INSPECTOR IS TO OBSERVE THESE ITEMS ON A RANDOM BASIS.

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PERFORM: THE INSPECTOR IS TO PERFORM THESE TASKS FOR EACH JOINT OR MEMBER.

THE INSPECTOR IS TO PREPARE REPORTS INDICATING WORK WAS PERFORMED PER THE CONTRACT DOCUMENTS.

DOCUMENT:

CAST-IN-PLACE CONCRETE MIX SCHEDULE									
APPLICATION	EXPOSURE CLASS	STRENGTH (PSI)	TYPE	W/C RATIO	SLUMP	AIR CONTENT	MAX AGGREGATE SIZE	MAX CONCRETE WEIGHT (PCF)	
POST-TENSIONED SLAB	F0, S0, P0, C0	4,000	NORMAL WT.	0.48	4" TO 6"		3/4"		
UNLESS NOTED OTHERWISE	F0, S0, P0, C0	4,000	NORMAL WT.	0.48	4" TO 6"		3/4"		

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- 1. EXPOSURE CLASS FOR FREEZE/THAW, SULFATES, PERMEABILITY, AND CORROSION ARE PER ACI 318, SECTION 4.2.
- WHERE NO W/C RATIO, SLUMP, OR AIR CONTENT IS NOTED, CONCRETE MIX DESIGN SHALL BE AS RECOMMENDED BY THE READY MIX SUPPLIERS ENGINEER.
- 3. WHERE AIR ENTRAINMENT IS NOT REQUIRED PER THE ABOVE TABLE, THE CONTRACTOR, INSTALLER, OR SUPPLIER MAY CHOOSE TO INCLUDE AIR ENTRAINMENT TO IMPROVE PLACEMENT AND FINISHING CHARACTERISTICS. AIR ENTRAINMENT IS NOT PERMITTED IN NORMAL WEIGHT CONCRETE TO RECEIVE A HARD TROWEL FINISH, AND ENTRAPPED AIR SHALL NOT EXCEED 3%. AIR ENTRAINMENT IN LIGHT WEIGHT CONCRETE SLABS IS REQUIRED TO MEET FIRE RATING REQUIREMENTS. SLABS SHALL BE PROPERLY FINISHED TO AVOID SURFACE IMPERFECTIONS SUCH AS BLISTERING OR DELAMINATION.
- 4. CEMENT AND AGGREGATES SHALL BE FROM A SINGLE SOURCE.

CONCRETE TENSION SPLICE LAP LENGTHS												
5.5		f'c=	3000		f'c=4000				f'c=5000			
BAR SIZE	TOP	BARS	OTHER	BARS	TOP	BARS	OTHER	BARS	TOP	BARS	OTHER	BARS
JIZL	Α	В	Α	В	Α	В	Α	В	Α	В	Α	В
#3	22	28	17	22	19	25	15	19	17	22	13	17
#4	29	38	22	29	25	33	19	25	23	29	17	23
#5	36	47	28	36	31	41	24	31	28	36	22	28
#6	54	56	33	43	37	49	29	37	34	44	26	34
#7	63	81	48	63	54	71	42	54	49	63	38	49
#8	72	93	55	72	62	81	48	62	56	72	43	56
#9	81	105	62	81	70	91	54	70	63	81	48	63
#10	91	118	70	91	79	102	61	79	71	92	54	71
#11	101	131	78	101	87	114	67	87	78	102	60	78

NOTES:

- 1. ALL LENGTHS ARE IN INCHES.
- 2. BAR COVER AND TRANSVERSE REINFORCEMENT SHALL MEET CODE MINIMUM.
- 3. LAP SPLICING OF #14 & #18 BARS IS NOT ALLOWED.
- 4. LAP LENGTHS ARE FOR NORMAL WEIGHT CONCRETE WITH UNCOATED, 60 KSI BARS.
 5. WHEN LAPPING BARS OF DIFFERENT SIZES USE THE SPLICE LAP LENGTH OF THE SMALLER BAR, OR THE DEVELOPMENT LENGTH OF THE LARGER BAR, WHICHEVER IS GREATER. THE "A" VALUE FROM THE TABLE IS EQUAL TO THE BAR DEVELOPMENT
- 6. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF CONCRETE CAST BELOW THE REINFORCEMENT.

(CIP CONCRETE CLEAR COVE	R SCHEDULE		
	LOCATION	COVER (IN)		
CONCRETE	CAST AGAINST & EXPOSED TO EARTH	3"		
CONCRETE	EXPOSED TO EARTH OR WEATHER:			
	#6 TO #18 BARS	2"		
	#5, w31, AND SMALLER BARS	1 1/2"		
CONCRETE	NOT EXPOSED TO EARTH OR WEATHER:			
	SLABS, WALLS, AND JOISTS			
	#14 AND #18 BARS	1 1/2"		
	#11 AND SMALLER BARS	3/4"		
	BEAMS AND COLUMNS	1 1/2"		
COOTINGS	GRADE BEAMS, AND PILE CAPS	2" TOP		
roonings,	GRADE BEAMS, AND PILE CAPS	3" BOT. & SIDES		
PEDESTALS	AND COLUMNS	1 1/2" CLEAR OF TIES		
ELEVATED S	SLABS EXPOSED TO WEATHER:			
	#5 AND SMALLER BARS	1 1/2" TOP & 3/4" BOT.		
	#6 AND GREATER BARS	2" TOP & 3/4" BOT.		
WELDED WI	RE REINFORCEMENT:			
	5" OR LESS SLAB THICKNESS	CENTER		
	6" OR GREATER SLAB THICKNESS	2" FROM TOP		
BEAMS		1 1/2" CLR OF STIRRUPS		
JOISTS		1 1/2" ALL SIDES		

REVISION NO. REVISION NO. REVISION NO.	DESCRIPTION DESCRIPTION	DATE DATE	BY: BY:		SPANISH FORT FORT, ALABAMA	SPANISH FORT CENTER PICKLEBALL COMPLEX
REVISION NO.	DESCRIPTION	DATE	BY:		thompson	STRUCTURAL
REVISION NO.	DESCRIPTION	DATE	BY:	2970 COTTAGE HILL RD., STE. 190 MOBILE, ALABAMA 36606	ENGINEERING TEL: (251) 666 FAX: (251) 666	SCHEDULES AND TABLES
REVISION NO.	DESCRIPTION ISSUE FOR BID	DATE 3/15/24	BY: NTC	SCALE: PLOT SCALE: DF NOTED 1:1	AWN BY: CHECKED BY: APPROVED BY: TPT JHB RA	DATE : JOB NO. : DRAWING NO. REVISION NO. : DRAWING NO. REVISION NO. : DRAWING NO. DRAWING NO. REVISION NO. : DRAWING NO. DRAW

