SECTION 01700 - CONTRACT CLOSEOUT

1. During the progress of the work maintain a set of drawings of the project site for preparing record drawings. Neatly record all changes in the work and record specific locations of work shown schematically on the drawings. In addition, record the following on mechanical and electrical drawings.

   a. Location of concealed water and electrical services, water piping, sewers, wastes, vents, ducts, conduit, and other piping by indication of measured dimensions to such line from readily indentifiable walls or corners of buildings.

   b. Invert elevations of sewers and top of water lines.

2. Submit the record drawings to Owner for approval with the Punch List and written notice that the work is ready for verification of substantial completion required in the General Conditions. If Owner determines that the drawing are imcomplete or incorrect in any way, he will advise Contractor of the required corrections and Contractor shall promptly submit corrected drawings. Record documents shall be delivered to Owner prior to final payments for work.

3. Prepare three (3) complete sets of manuals containing the manufacturer's instructions for operation and maintenance of each item of equipment, apparatus, and operations system furnished under the Contract and any additional data specifically required in the specification sections.

   a. Manuals shall be bound with covers of durable material, arranged in the sequence of the specification sections and shall include the following:

      1) Neatly typewritten index.

      2) Complete instructions regarding operation, service and maintenance including lubrication, disassembly, and reassembly.

      3) Complete nomenclature of all parts and part numbers of all replaceable parts.

      4) Complete list of sources to be contacted for service and replacement parts including names, addresses and all other pertinent data regarding procurement procedure.

      5) Copy of all required guarantees and warranties.

      6) Manufacturer's bulletins, cuts, and description data clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturer's data with which this installation is not concerned.

      7) Any other data required in the specification sections.

   b. The operating and maintenance manuals shall be delivered to the Owner prior to final payment for the work.

   c. If requested by Owner, give physical demonstrations and oral instructions for the operation of equipment, apparatus, and operational systems furnished under the contract. Such demonstrations and instructions shall be given to Owner and/or others as Owner may choose.

4. In addition to the information listed in item 3 on sheet SPC1, the Contractor shall include in the project manual the following:

   a. General Contractor's 1-year written guarantee.

   b. All final lien waivers.

   c. Copy of Certificate of Occupancy.

   d. Copy of signed off permit card.

   e. List of subcontractors with names of contact person and phone numbers.

   g. Roof warranty.

   h. All test results (soils, concrete, etc.).

   I. As-built drawings.

5. Assemble all guarantees, warranties and assignments thereof as required by the General Conditions and the specifications sections. The guarantees, warranties and assignments shall be delivered to the Owner prior to final payment for the work.

SECTION 01710 - CLEANING

1. All cleaning shall be the responsibility of the Contractor unless specifically noted otherwise.

2. Maintain premises and public properties free from accumulations of waste, debris and rubbish caused by operations.

3. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials and clean all sight exposed surfaces; leave project clean and ready for occupancy.

4. Maintain project in accord with Occupational Safety & Health Act of 1970, as amended, in terms of clean-up.

5. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

   1. Do not burn or bury rubbish and waste materials on project site.

   2. Do not dispose of or store volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains in the facility.

6. During Construction

   a. Execute cleaning to ensure that roadway, walks, ground and public properties are maintained free from accumulations of waste materials and rubbish.

   b. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

   c. Provide on-site containers for collection of waste materials, debris, and rubbish.

   d. Remove waste materials, debris and rubbish from the site and legally dispose of at public or private dumping area off Owner's property.

      1) Accumulation of loose material, trash, rubbish, and debris will not be permitted.

      2) Each contractor shall be required to dispose of waste materials on a regular basis.

7. Final Cleaning

   a. In preparation for occupancy, conduct final inspection of sigh-exposed interior and exterior surfaces and of concealed spaces.

   b. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign material from sigh-exposed interior and exterior finished surfaces; polish surfaces so designated to a shiny finish.

   c. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.

   d. Remove all foreign materials from roof and site area.

   e. Perform all final cleaning, including the following:

      1) Employ experienced workmen or professional cleaners for final cleaning.

      2) Clean all glass, removing labels and paint.

      3) Broom clean paved surfaces; rake clean other surfaces of grounds.

      4) Clean all floors of dirt and dust.

   f. Respective contractors shall perform cleaning of their equipment.

   g. All strainers and floor drains in respective pipe work shall be cleaned.

   h. Replace burned out of inoperative lighting lamps.

   i. Owner will assume responsibility for cleaning as of time designated on Certificate of Final Acceptance, Conditional Acceptance or partial occupancy, whichever is first, for Owner's acceptance of Project or portion thereof.

SECTION 01800 - CHANGE ORDERS

All discrepancies in the drawings or changes made to the project shall be brought to the Architect's attention prior to proceeding with the project. Failure to bring such
items to the Architect's attention or bringing them up after the fact will result in no change order being approved and no additional compensation allowed.

DIVISION 2 - SITE WORK

SECTION 02100 - SITE CLEARING

1. Remove and legally dispose of above and below grade improvements and structures if any and/or not indicated to remain, within the project limits.

2. Remove trees, vegetation, etc., within project limits.

3. Strip topsoil within building and pavement area and stockpile for reuse in landscape and green areas; excess shall be removed from site.

4. Provide protection to improvements to remain.

SECTION 02200 - EXCAVATION, BACKFILLING, COMPACTION AND GRADING

The following are general guidelines for excavation, backfilling, compaction and grading. The contractor shall follow the specific recommendations made in the soils report and/or construction plans. When not specifically addressed in the construction documents, contractor shall comply with the provisions herein.

SOIL TESTING

1. Excavate for footings, foundations, structure, utilities, etc. to indicated depth. All excavation shall be assumed as earth.

   a. Trim bottoms to leave solid, undisturbed base for concrete placement. Bearing capacity is assumed to be 2,000 psf.

   b. All foundation excavation shall be kept dry, and protected from freezing.

   c. Correct unauthorized excavation in a manner acceptable to Owner.

2. Excess earth not required for backfill shall be removed from site. General Contractor responsible for topsoil placement and raking to grade.

3. Compact backfill to density of adjacent soil, as follows, whichever is greater: (Refer to Soils Report for other recommendations):

   a. Compact soil to not less than the following percentages of maximum density for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D1557: and not less than the following percentages of relative density, determined in accordance with ASTM D2049, for soils which will not exhibit a well-defined moisture-density relationship (cohesionless soils).

   b. Under Buildings and Paved Areas: Compact top 8 inches of existing surface and each layer of backfill of fill material to 95 percent maximum density (Standard Proctor) for cohesive soil or 98 percent relative density (Standard Proctor) for cohesionless soils).

   c. Other Areas: Compact 8 inches of existing ground surface and each layer of backfill to fill material to 90 percent maximum density (Standard Proctor) for cohesive soils or 85 percent relative density (Standard Proctor) for cohesionless soils.

   d. Where soil materials must be moisture conditioned before compaction, uniformly apply water to surface. Prevent free water from appearing on surface of soil materials during or subsequent to compaction operation.

   e. Remove and replace, or scarify and air dry soil material that is too wet to permit compaction to specified density.

4. Backfill and fill materials

   a. Sand or sand on gravel or engineered (clean) earth fill shall be used under floor slabs on-grade, to underside of crushed stone underlayment.

   b. Earth materials taken from the excavation operations and stockpiled on site as a acceptable fill material, capable of meeting the specified compaction requirements, shall be used as fill material in areas outside the building.

      1) Only 1-inch washed gravel, pea gravel or sand shall be used in utility trenches in paved areas, to top of subgrade.

   c. Existing paving, organic material or existing soils shall not be used for filling under building slabs or for filling under pavements.

   d. Granular fill under slabs shall be No. 57, 6, or 67 crushed stone per ASTM D449.

   e. Remove rock or gravel larger than 2 inches in any dimension, debris, waste, obstructions, and deleterious matter from ground surface prior to placement of fills.

   Grade site to establish required elevations. Maintain proper drainage ways to direct water away from building. Final grading.

   Storm drainage shall be provided as indicated on site plan(s) and installed in accordance with state and local codes and ordinances.

6. Grade areas to smooth finished surfaces free from irregular surface changes. Compact with uniform levels or slopes between points and existing perimeter grades.

7. Contractor to install outside sprinkler system for irrigation per local standards and code requirements.

SECTION 02281 - TERMITE CONTROL

Part 1 - General

1.01 Summary

A) This section includes the following:

1) Soil treatment with termiticide.

1.02 Submittals

A) Product certificates.

B) Soils treatment application report: Include the following:

1) Date and time of application.

2) Moisture content of soil before application.

3) Brand mane and manufacturer of termiticide.

4) Quantity of undiluted termiticide used.

5) Dilutions, methods, volumes and rates of application used.

6) Areas of application.

7) Water source for application.

1.03 Quality assurance

A) Installer qualifications: A specialist who is licensed according to regulations of authorities haveing jurisdiction to apply termite control treatment and products in jurisdiction where project is located.

B) Regulatory requirements: formulate and apply termiticides according to the epa-registered label.

1.04 Warranty

A) Special warranty: manufacturer's standard form, signed by applicator and contractor certifying that termite control work, consisting of applied soil termiticide treatment, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

1) Warranty period: Five years from date of substantial completion.

1.05 Maintenance service

A) Continuing service: Beginning at substantial completion, provide 12 months continuing service including monitoring, inspection and re-treatment for occurrences of termite activity. Provide a standard continuing service agreement, state services, obligations, conditions and terms for agreement period; and terms for future renewal options.

Part 2 - Products

2.01 Manufacturers

A) Available manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the work include, but are not limited to the following:

B) Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Termicides:

A) Aventis Environmental Science USA LP; Termidor.

B) Bayer Corporation; Premise 75.

C) Dow Agrosciences LLC; Dursban TC.

D) Syngenta; Demon TC.

2.02 Soil treatment

A) Termiticide: Provide an EPA-Registered termiticide complying with requirements of authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation. Provide quantity required for application at the label volume and rate for the maximum termiticide concentration allowed for each specific use according to products EPA-Registered label.

Part 3 - Execution

3.01 Preparation

A) General: Remove all extraneous sources of wood cellulose and other edible materials such as wood debris, tree stumps, old roots, stakes, formwork and construction wate wood from soil within and around foundations.

B) Soil treatment preparation: Unless chosen, rake soil to be treated except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended in writing by termiticide manufacturer.

3.02 Application of soil treatment

A) Application: Mix soil treatment termiticide solution to a uniform consistancy. Provide quantity required for application at the label volumn and rate for the maximum specified concentration of termiticide, according to manufacturers EPA-registered label, to soils following so that a continuous horizontal and vertical termiticide barrier or treated zzone is established around and under building construction. Distribute treatment evenly.

1) Slabs-on-grade: under ground-supported slab construction, including footings, building slabs and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.

2) Foundations: Adjacent soil including soil along the entire inside perimeter of foundation walls, along both sides of interior partition walls, around plumbing pipes and electric conduit penetrating the slab and around interior column footers; Also along the entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.

B) Avoid disturbance or treated soil after application. Keep off treated areas until completely dry.

C) Protect termiticide solution, dispersed in treated soils and fills from being diluted until ground-supported slabs are installed. use waterproof barrier according to EPA-Registered label instructions.

D) Post warning signs in areas of application.

E) Reapply soil treatment solution to areas disturbed by subsequents excavation, grading, landscaping or other construction activities following application.

DIVISION 3 - CONCRETE

SECTION 03300 - CAST IN PLACE CONCRETE (INCLUDED EXTERIOR CONCRETE

1. Cast-in-place concrete work including all labor, tools, material, equipment and services necessary to properly place and complete all interior and exterior cast-in-place concrete, formwork, reinforcement, joints and embedded items, finishing, curing and concrete testing.

2. Unless otherwise shown or specified, the work shall conform to the following standards of the American concrete Institute.

   ACI 214, Recommended Practice for Evaluation of Strength Tests Results of Concrete.

   ACI 306R, Cold Weather Concreting.

   ACI 315, Manual of Standard Practice for Detailing Reinforced Concrete Structure.

   ACI 318, Building Code Requirement for Reinforced Concrete.

   ACI 347, Recommended Practice for Concrete Formwork.

   ACI 305R, Hot Weather Concreting.

   ACI 211.1, Standard Practice for Selecting Proportions for Normal, Heavyweights and Mass Concrete.

   ACI 304R, Guide for Measuring, Mixing, Transporting and Placing Concrete.

3. Materials:

   a. Portland Cement: ASTM C150, Type 1 GRAY STAIN

   b. Aggregates: ASTM C33

   c. Water: Clean, fresh, and portable

   d. Air Content: 5% to 8%

   e. Air entrainment admixture: ASTM C260 & ASTM C494.

   f. Re-steel:

      1) Bars: ASTM A615, Grade 60 (Grade 40 for stirrups and ties)

      2) Fabric: ASTM A185

   g. Curing compound: ASTM C309, Type 1, Class A, Sonneborn "Kure-N-Seal" or equal; two coats for exposed concrete floors.

   h. Control joints filler: ASTM D1751, J & P "Tex-Lite Fiber" or equal, 1/2" thick.

   i. Forms: Steel, wood or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required. Coat forms with a non-staining form release agent that will not discolor or deface the surface of the concrete.

   j. Vapor Barrier: Polyethylene sheet, ASTM D2103, 6 mil. thick.

   Grout: "Masterflow 928" by Master Builders or equal.

   Concrete mix:

   Ready mixed per ASTM C94.

   Strength - per construction plans or minimum as follows:

4. Concrete Mix:

   a. Ready mix per ASTM C94.

   b. Strength - per construction plans or minimum as follows:

      1) Building = 3,000 psi @ 28 days

      2) Exterior (exposed) = 4,000 psi @ 28 days

   Slump:

   5-inch maximum for general use.

   2) 3-inch maximum for flat work.

   d. Air entrainment: 5% by volume, +/- 1%.

   e. Provide mix design to Owner for review.

5. Verify lines, levels, and measurement before proceeding with formwork.

6. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

   a. Exposed corners shall be chamfered 3/4" unless shown otherwise.

7. Place, support, and secure reinforcement against displacement per ACI 315.

8. Install vapor barrier under interior floor slabs on fill. Lap joints minimum 6-inches and seal. Do not disturb vapor barrier while placing reinforcement.

   a. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

9. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints. Deposit concrete as nearly as practical to its final location to avoid segregation.

10. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spacing, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.

11. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

   a. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps and hollows. Do not disturb slab surfaces prior to beginning finishing operations.

   b. Maintain reinforcing in proper position during concrete placement.

   c. Forms may be removed after curing at not less than 50 degrees F. for 24 hours provided concrete is hard enough to not be damaged by form removal operations, and continued curing and protection is maintained.

12. Finishing interior slabs: float finish per ACI 301. Power trowel to provide a smooth surface, relatively free of defects. Provide a fine, light broom finish.

   a. Where ceramic or quarry tile occurs, provide a fine, light broom finish to aid in bonding of tile to slab.

   b. Exposed concrete floors shall be sealed with Euclid "Diamond Hard" or equal (GRAY)

13. Finishing exterior slabs: Finish slabs to true planes and provide light broom finish as acceptable to Owner. Al exterior exposed concrete shall receive an anti-spall treatment of 50% (by volume) boiled linseed oil and 50% (by volume) mineral spirits, per AASHTO M233. first application: 40 sq. yds. per gallon and allow to completely dry. Second application: 60 sq. yds. per gallon and allow to completely dry.

   a. Vertical surfaces shall be rubbed with medium coarse carborundum stone and water to provide a smooth texture of uniform color, form mark free.

   b. All concrete surfaces shall be stripped and rubbed same day.

14. Tolerance: Finished slabs shall be level with tolerance of 1/8" in ten feet, when tested with ten foot straight edge placed on the surface at not less than two difference angles. Uniformly slop surface to area drain.

15. The contractor shall engage and pay for a testing laboratory for strength and slump test.

   a. Test specimens for compressive strength in accordance with ASTM C31 and C39.

   b. Make at least one strength test for each 100 cubic yards, or fraction thereof, of each mix design of concrete placed in any 1 day.

   c. Prepare five (5) test cylinders from each of the above sample in accordance with ASTM C32 for laboratory cured specimens. Test two (2) cylinders at age 7 days for preliminary indication of design strength. Test two (2) cylinders at age 28 days for the basis of quality control as specified by ACI 318. Retain one (1) cylinder for 45 day testing if required.

16. Average any three consecutive 28 day strength tests shall be equal to or greater than specified strength, and not more than 10% of tests shall have values less than specified strength. In no case shall test have a value less than 90% of specified strength.

DIVISION 4 - MASONRY

SECTION 04200 - CONCRETE MASONRY UNIT

1. Concrete Masonry Units:

   a. Concrete masonry units shall be from one manufacturer, of uniform texture and color for each type required.

   b. Concrete masonry units: Nominal face dimensions of 12 inch x 16 inches long, unless otherwise indicated; complete with corners, bases, bond beams, lintels and fillers to match concrete masonry units; 1-1/4" minimum face shall be cured in a moisture-controlled atmosphere or in an autoclave at normal pressure and temperature to comply with ASTM C90, Grade N, Type 1.

SLAB THICKNESS__/__
SNOW GUARDS__/__
EGRESS__/__
BLDG CODES__/__
ADA__/__
QUALITY CONTROL CHECK:

Project No.
17-052

snd design ARCHITECTS
Results!

Design +, Inc.
Bardstown-Eastern Building
1449 Bardstown Rd., Suite 200
Louisville, KY 40204
(502) 454-6011

TEXAS roadhouse
1570 W. KOGER CENTER DRIVE RICHMOND, VA 23235

PERMIT SET

DRAWN BY	LAJ
CHECKED BY	KRB
DATE	6/22/2017

REV. [DATE] DESCRIPTION

SHEET TITLE
SPECIFICATIONS

SP2.0