WBA
ARCHITECTURE

17 November 2021

GS#610-012 MCM LeFleur's Bluff Park Improvements (Phase 1B)
Mississippi Department of Wildlife, Fisheries, and Parks

ADDENDUM NO. 01

NOTICE TO ALL DOCUMENT HOLDERS:
The following additions, deletions, changes and clarifications to the drawings and specifications are to be included as part of the Contract Documents.

SPECIFICATIONS

ITEM NO. 01 **03.1000 – CONCRETE FORMWORK**
ADD the spec section with the attached **Section 03.1000.**

ITEM NO. 02 **03.2000 – CONCRETE REINFORCEMENT**
ADD the spec section with the attached **Section 03.2000.**

ITEM NO. 03 **03.3000 – CAST-IN-PLACE CONCRETE**
ADD the spec section with the attached **Section 03.3000.**

ITEM NO. 04 **05.1200 – STRUCTURAL STEEL FRAMING**
ADD the spec section with the attached **Section 05.1200.**

ITEM NO. 05 **07.4113 – METAL ROOF PANELS**
ADD the spec section with the attached **Section 07.4113.**

ITEM NO. 06 **31.1000 – EARTHWORK FOR BUILDINGS**
ADD the spec section with the attached **Section 31.1000.**

REFERENCE

ITEM NO. 07 **R100 – Project Info – Reference**
REPLACE sheet with the attached **R100.**
Adds sheets to the index of drawings

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CIVIL

ITEM NO. 08 **C300 – Site Plan – Civil**
REPLACE sheet with the attached **C300.**
Adds pavilion scope of work to documents
Revises trail entrance location from parking log.

ITEM NO. 09 **C400 – Grading & Drainage Plan – Civil**
REPLACE sheet with the attached **C400.**
Adds pavilion scope of work to documents
Revises trail entrance location from parking log.

ARCHITECTURAL

ITEM NO. 10 **A100 – Architectural Site Plan – Architectural**
ADD sheet with the attached **A100.**
Adds architectural site plan to documents.

ITEM NO. 11 **A101 – Pavilion – Architectural**
ADD sheet with the attached **A101.**
Adds pavilion scope of work to documents

ITEM NO. 12 **A201 – Enlarged Elevations – Architectural**
ADD sheet with the attached **A201.**
Adds pavilion scope of work to documents

ITEM NO. 13 **A301 – Details – Architectural**
ADD sheet with the attached **A301.**
Adds pavilion scope of work to documents

STRUCTURAL

ITEM NO. 14 **S1.0 – Structural Notes – Structural**
ADD sheet with the attached **S1.0.**

ITEM NO. 15 **S1.1 – Structural Quality Assurance – Structural**
ADD sheet with the attached **S1.1.**

ITEM NO. 16 **S2.0 – Foundation & Roof Framing Plan – Structural**
ADD sheet with the attached **S2.0.**
Adds pavilion scope of work to documents

ITEM NO. 17 **S2.1 – Shear Wall Plan – Structural**
ADD sheet with the attached **S2.1.**
Adds pavilion scope of work to documents

ITEM NO. 18 **S3.0 – Details – Structural**
ADD sheet with the attached **S3.0.**
Adds pavilion scope of work to documents

ITEM NO. 19 **S3.1 – Details – Structural**
ADD sheet with the attached **S3.1.**
Adds pavilion scope of work to documents

ELECTRICAL

ITEM NO. 20 **E0.0 – Electrical Legend – Electrical**
REPLACE sheet with the attached **E0.0.**
Revises light fixture and panel schedule to include pavilion scope or work.

ITEM NO. 21 **E1.1 – Renovation Site Plan – 1B – Electrical**
REPLACE sheet with the attached **E1.1.**
Clarifies which site light fixtures will be Owner provided.

ITEM NO. 22 **E2.0 – Lighting Power Plans – Electrical**
ADD sheet with the attached **E2.0.**
Adds pavilion scope of work to documents

Encl: **Specifications (x Sheets – 8.5x11):**
03.1000 Concrete Formwork
03.2000 Concrete Reinforcement
03.3000 Cast-in-Place Concrete
05.1200 Structural Steel Framing
07.4113 Metal Roof Panels
31.1000 Earthwork for Buildings

Drawings (x Sheets - 24x36):
R100 – Project Info
C300 – Site Plan
C400 – Grading & Drainage Plan
A100 – Architectural Site Plan
A101 – Pavilion
A201 – Enlarged Elevations
A301 – Details
S1.0 – Structural Notes
S1.1 – Structural Quality Assurance
S2.0 – Foundation & Roof Framing Plan
S2.1 – Shear Wall Plan
S3.0 – Details
S3.1 – Details
E0.0 – Electrical Legend
E1.1 – Renovation Site Plan 1B
E2.0 – Lighting/Power Plans

cc: All Document Holders
File 3517

SECTION 03.1000
CONCRETE FORMWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contact, including General and Supplementary Conditions and other Division 1 specification sections, apply to this section.

1.2 SCOPE

A. This work includes all concrete formwork and other related items necessary to complete the project indicated by the contract documents unless specifically excluded.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Wood forms to be ¾" exterior grade plywood on studs and joists. Lumber shall be 2" (nominal) X width required for strength, conforming with PS-20. Studs, girts and wales shall be not less than 2" X 4" (nominal), selected for straightness.

B. Form ties: Standard snap ties, 1-1/2" breakback. Holes for ties to be ¼" (minimum) smaller than outer core dimension.

C. Form oil: Approved non-staining type, "Noxcrete" or equal. Oil must not affect bonding or finishes on exposed concrete.

PART 3 - EXECUTION

3.1 FORM CONSTRUCTION

A. Wood forms are required for all foundations. Earth forms are allowed for sloping sides of grade beams to be poured with floor slabs.

B. Forms shall be properly aligned, adequately braced and mortar tight to produce concrete shapes required by drawings. Align forms so that the actual surface does not vary from true surface more than 1/8". The surface shall be clean, undamaged, and free of offsets and irregularities at joints. Adequately brace and frame to retain true shapes under vibration and placing strains without leaks, bowing, or deflection.

C. Studs, girts, and wales shall not be less than 2x4, S4S construction of standard grade Douglas fir or equal, selected for straightness. All wales shall consist of at least two 2X4's. Studs and girts shall not be spaced more than 16", wales not more than 24", and ties not more than 27".

D. Lightly oil work forms prior to placing reinforcing, and with oil not permitted on the reinforcing. Where form oil is used, remove excess before pouring concrete.

E. Formwork shall comply with "Recommended Practice for Concrete Formwork" ACI 347, unless specified herein otherwise.

F. Clean formed cavities of debris prior to placing concrete. This may be performed by flushing with water or compressed air. The latter method is preferred and use of water must be approved by Architect prior to using this method. All debris to be moved to a central location where it is to be removed in its entirety.

3.2 INSERTS AND FASTENING DEVICES FOR OTHER WORK

A. Provide for installation of inserts, hangers, metal ties, anchors, bolts, dowels, nailing strips, grounds and other fastening devices required for attachment of other work. Locate partitions for other trades prior to pouring concrete in order that conduits, sleeves and inserts required by others will be installed in the proper locations. Hang tie or form in all inserts, do not place in wet concrete by hand.

B. Do not install sleeves in any concrete beams or piers except upon approval of the Architect or as detailed in the Drawings. Do not put aluminum conduits in concrete.

C. Seal all formwork to avoid water or paste leaks at joints.

D. Verify location and properly install all utility sleeves prior to concrete placement.

3.3 FORM REMOVAL

A. Formwork for sides of beams and similar vertical forms not supporting the weight of the concrete may be removed after 24 hours providing the concrete has hardened sufficiently to resist damage from the removal operation.

END OF SECTION

SECTION 03.2000

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including General and Supplementary Conditions and other Division 1 specification sections, apply to this section.

1.2 WORK INCLUDED

A. Reinforcing steel bars, welded steel wire fabric for cast-in-place concrete.

B. Support chairs, bolsters, bar supports, spacers, and other devices for supporting reinforcement.

1.3 REFERENCES

A. The following specifications, standards and codes shall govern the fabrications and placement of concrete reinforcement, unless modified by this Specification:

1. American Concrete Institute (ACI)
    a. ACI 301 – Structural Concrete for Buildings.
    b. ACI 318 – Building Code Requirements for Reinforced Concrete.
    c. ACI SP – 66 – Detailing Manual.
2. American Society for Testing and Materials (ASTM)
    a. ASTM A185 – Welded Steel Wire Fabric for Concrete Reinforcement.
    b. ASTM A165 – Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
    c. ASTM 1676/A 767M-97 – Specification for Zinc – Coated (Galvanized) Steel Bars for Concrete Reinforcement.
3. American Welding Society (AWS)
    a. AWS D1.4 – Structural Welding Code for Reinforcing Steel.
    b. AWS D12.1 – Welding Reinforcement Steel, Metal Inserts and Connections in Reinforced Concrete Construction.
4. Concrete Reinforcing Steel Institute (CRSI)
    a. CRSI – Manual of Practice
    b. CRSI 62 – Recommended Practice for Placing Reinforcing Bars.
    c. CRSI 65 – Recommended Practice for Placing Bar Supports, Specifications and Nomenclature.

1.4 SUBMITTALS

A. Submit shop drawings under provisions of Section 01330 detailing reinforcing steel in accordance with ACI-315-74, indicating sizes, spacings, locations and quantities of reinforcing steel, wire fabric, bending and cutting schedules, splicing, stirrup spacing, supporting and spacing devices and dowels.

B. Submit shop drawings to the Architect that show approval of the Contractor. Do not fabricate material until approval of the Architect has been obtained.

C. Under no circumstances will field fabrication such as bending be allowed. All necessary dowels, etc., will be fabricated by the steel supplier.

D. Manufacturer Certificates shall be submitted to certify that products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Perform concrete reinforcement work in accordance with CRSI Manual of Standard Practice and Documents 63 & 65.

B. Conform to ACI 315-99.

C. Acceptable Manufacturers: Regularly engaged in the manufacture of steel bars and welded wire fabric.

D. Installers Qualifications: Three years experience in the installation of steel bar and welded wire reinforcing.

E. Testing Laboratory to inspect reinforcing location, size, grade, and splice length for conformance with Contract Documents. The Testing Laboratory shall inform the Architect and Contractor of work not conforming to the Contract Documents and provide written a report to the Architect of compliance. Concrete shall not be poured until the Testing Laboratory issues approval.

1.6 DELIVERY, HANDLING AND STORAGE

A. Deliver reinforcing to project site in bundles marked with metal gauges indicating contents of bundle keyed to shop drawings.

B. Store at site on skids, off-grade, in manner to prevent soiling, contamination or other damage.

C. Handle as required to prevent bending, kinking or other damage.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Reinforcing Steel: ASTM A615, grade 60 deformed billet steel bars, domestic manufactured.

2.2 ACCESSORY MATERIALS

A. Tie Wier: Minimum 18 gauge annealed type.

B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete.

C. Provide chairs with plastic-coated feet.

D. Other Supports: No Brick or Concrete block chairs will be allowed. Brick masonry or concrete masonry shall not be used to support reinforcing steel.

PART 3 - EXECUTION

3.1 FABRICATION

A. Fabrication in accordance with ACI 315-99, providing concrete cover specified in the contract documents.

B. Locate reinforcing splices not indicated on Drawings at points of minimum stress.

C. No hand sticking of reinforcement after commencement of concrete pour.

D. Do not place concrete if reinforcing bar temperature is below 35° F.

3.2 PLACEMENT

A. Clean excavations, forms, etc., of loose earth, water, debris, trash, etc.

B. Check forms for levelness and plumbness. Verify proper alignment and bracing.

C. Verify that all other trades have their materials in place.

D. Clean reinforcement of loose scale, loose rust, oil or other material, which will reduce bond with concrete.

E. Reinforcement shall be placed in accordance with CRSI “Recommended Practice for Placing Reinforcing Bars”.

F. Provide and install chairs, bolsters, bar supports and spacers to properly position and secure the bars and mesh while concrete is being poured.

G. Install reinforcement and position so as to maintain the concrete cover indicated on the Drawings.

H. Use soft, black annealed tie wire to secure steel at laps, splices and intersections. See additional information in Drawings.

I. Reinforcement for 1 day’s pour shall be completely placed and an approval made by the Architect prior to starting the pour.

END OF SECTION

SECTION 03.3000
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Furnish, place and finish the cast-in-place concrete and related items as indicated on the Drawings and as specified herein.

B. Related work specified elsewhere:
1. Section 03.1000 Concrete Formwork
2. Section 03.2000 Concrete Reinforcement

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM)
1. ASTM C33 Specification for Concrete Aggregates.
2. ASTM C94 Specification for Ready-Mix Concrete.
3. ASTM C150 Specification for Portland Cement.
4. ASTM C260 Specification for Air-Entraining Admixtures for Concrete.
5. ASTM C494 Specification for Chemical Admixtures for Concrete.
6. ASTM C618 Specification for Fly Ash and Raw or Calcinated Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.

B. American Concrete Institute (ACI)
1. ACI 301-99 Specifications for Structural Concrete.
2. ACI 302.1R-96 Guide for concrete Floor and Slab Construction.
3. ACI 304R-00 Measuring, Mixing, Transporting and Placing Concrete.
4. ACI 305R-99 Hot Weather Concreting.
5. ACI 306.1-90 Cold Weather Concreting.
6. ACI 308-92 Standard Practice for Curing Concrete.
7. ACI 318R-99 Building Code Requirements for Structural Concrete.

1.3 LABORATORY TESTS AND CONTROL

A. The Contractor shall engage the services of a recognized independent Testing Laboratory approved by the Architect and paid for by the Contractor to furnish the following:

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1 Certification Program, or the requirements of ASTM C 1077.

2. Inspection and report for reinforcement see section 03200.

3. During construction: Casting and testing of concrete cylinders, and furnishing reports of all tests. The Contractor shall notify the Testing Laboratory of all pours 24 hours in advance to permit all tests to be made.

4. Ready-Mix Concrete Producer shall provide design and control of mixes for all concrete. Testing Agency shall verify that only mixes approved by the Architect are used.

B. Cylinders are to be cast on the job according to ASTM C 31 and laboratory compression test will follow (ASTM C 39). A set of four cylinders shall be cast for each test specimen. One set of cylinders shall be cast for each class

(design mix) of concrete for each 75 cubic yards, or portion thereof, placed. A minimum of one set of cylinders shall be cast for each class of concrete placed per day. One cylinder from the laboratory will be tested at 7 days. Two cylinders from the laboratory will be tested at 28 days. The fourth cylinder will be held in reserve for future testing or in the case of an improper sample, as may be required.

C. The following documentation and testing shall be completed for each set of cylinders:

1. Compressive Strength (ASTM C 39)
2. Slump (ASTM C143)
3. Air Content (ASTM C 231 or C 173)
4. Location of placement the sample represents
5. Document other information such as the addition of water, excessive wait time, etc.

D. Conduct a slump test on the first load of each class of concrete delivered each day and periodically thereafter to ensure compliance. Perform a slump test after any water is added and when test cylinders are formed.

E. Slump exceeding the specified maximum, in two consecutive tests on different portions of the sample, will be cause for rejection of the load.

F. Additional testing and samples shall be required for the first load delivered in the morning and in the afternoon for each mix design placed, when any change in consistency or appearance of the concrete indicates that a test should be made, and at any other time during the progress of the work when requested by the Architect.

G. If an inadequate number of tests are conducted, the strength of the concrete in place shall be considered questionable and shall be subject to further testing at the expense of the Contractor. If cylinder breaks indicate low concrete strengths, the strength of the concrete shall be considered questionable and shall be subject to further testing at the expense of the Contractor. If ongoing cylinder breaks indicate low concrete strengths, the strength of the concrete shall be considered questionable and further testing as deemed necessary by the Architect may be required and will be at the expense of the Contractor.

H. Copies of all test reports shall be distributed to the Architect, Structural Engineer, and Contractor.

I. Test results obtained by use of an impact hammer or sonoscope will not be considered conclusive in evaluating strengths of concrete.

1.4 ENVIRONMENTAL CONDITIONS

A. Do not start or continue a pour during rain or snow. Pour only to suitable cut-off point after start of inclement weather.

B. Place concrete where temperatures will remain 40° F and above for at least 24 hours, unless otherwise approved. Maintain minimum concrete temperatures of 50° F for 72 hours after completing pour.

C. During hot weather or periods of low humidity combined with a definite breeze, rapid loss of moisture shall be discouraged by thoroughly wetting forms. Moisture loss from the concrete shall be minimized prior to finishing by use of a fine fog spray or evaporation retardant. At these times, particular attention shall be given to providing an adequate number of finishers to expedite this operation.

D. Do not spray concrete with an open water hose.

1.5 TOLERANCES

A. Reinforcement:
1. Bars shall meet following requirements for fabricating tolerances:

a. Sheared length: Plus or minus one inch.
b. Depth of truss bars: Plus 0, minus 1/2- inch.
c. Overall dimension of stirrups, ties, and spirals: Plus or minus 1/2-inch.
d. Other bends: Plus or minus one inch.

2. Bars shall be placed to following tolerances:
   a. Concrete cover to formed surfaces: Plus or minus 1/4-inch.
   b. Minimum spacing between bars: Minus 1/4 inch.
   c. Top bars in slabs and beams:
      1) Members eight inches deep or less: Plus or minus 1/4-inch.
      2) Members more than eight inches but not over two feet deep: Plus or minus 1/2-inch.
      3) Members more than two feet deep: Plus or minus one inch.
   d. Crosswise members: Spaced evenly within two inches.
   e. Lengthwise of members: Plus or minus two inches.

3. Bars may be moved as necessary to avoid interference with other reinforcing steel, conduits or embedded items. If bars are moved more than one bar diameter or enough to exceed above tolerances, resulting arrangement of bars is subject to approval of the structural Engineer.

B. Concrete:
1. Float and broom finish: Plane within 1/4-inch in 10-feet as determined by a 10-foot straightedge.
2. Steel trowel finish: See requirements specified elsewhere in this Section.
3. Smooth hardened finish: For all rooms with sealed concrete floors.

1.6 NOTICES

A. Architect shall be given written notice a minimum of 48 hours prior to any concrete pour. If the Architect has no conflict he/she will authorize the pour schedule. If a pour is delayed for more than 2 hours, due to the work not being prepared and ready for inspection the pour shall be rescheduled for 24 hours later. No concrete shall be poured without the Architect or his Representative being present, unless otherwise approved by the Architect.

1.7 SUBMITTALS

A. Mix Design: Submit the concrete mix design for each class of concrete to the Architect for approval prior to construction. Historical strength data shall be submitted showing that the proposed mix design has historically been acceptable for the specified strength.

B. Curing Procedures: Submit a description of the curing procedures that will be used to the Architect for approval prior to construction. The description shall include verification from the Contractor that the curing procedures and any products used for curing are compatible with the finish flooring.

C. Product Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, admixtures, patching compounds, curing compounds and others (if requested) for approval by the Architect.

D. Submit layout and details of construction joints for Architect/Engineer review and approval.

E. Samples: Submit samples of materials as specified and as otherwise requested by Architect, including names, sources and descriptions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portland Cement, ASTM C150, Type I or II. Pozzolan conforming to ASTM C 618 shall be blended with the Portland Cement in an amount approved by the Structural Engineer.

B. Water: ASTM C 94/C 94M and potable. From city water supply.

C. Typical aggregate for normal weight concrete: ASTM C 33 or aggregate with a proven record of producing concrete with adequate strength and durability, sand and gravel.
   1. Maximum gravel size shall be as follows:
      a. ACI 301-99 Paragraph 4.2.2.3 for concrete at footings, grade beams, columns, walls, beams and slabs. Max. size 3/4".
   2. Aggregates must be free from lignite or any other deleterious materials (0.5% limit).

D. Cementitious Non-Shrink Grout: CRD-C 588, factory pre-mixed, non-metallic grout.
   1. "Masterflow 713" by Master Builders, Inc.
   2. "Sonogrout 10k"by Sonneborn-Chemrex
   3. "Dry Pack Grout" by Euclid Chemical Co.
   4. "Five Star Grout" by Five Star Products, Inc.
   5. "Duragrout" by L&M Construction Chemicals, Inc.

E. Admixtures:
   1. Air Entrainment – ASTM C 260.
   2. Chemical – ASTM C 494.
   3. Retardant – Pozzolith retardant as manufactured by Master Builders, or equal.

F. Curing Compound: "Clear Bond", manufactured by Guardian Chemical Co., "Kure-N-Seal", manufactured by Sonneborn, or approved equal.

G. Polyethylene Sheets: Clear polyethylene sheets, 4 mils thick, meeting requirements of ASTM D 4397.

H. Absorptive Cover: Burlap Cloth made from jute of kenaf, weighing approximately 9 oz. /sq. yd., complying with AASHTO M 182, Class 2.

I. Bonding Compound: Polyvinyl acetate, rewettable type.

J. Expansion Joint Filler: Pre-molded, closed-cell polyethylene equal to Sonoflex. Thickness as shown.

K. Storage of Materials: Cement and aggregate shall be stored in such a manner as to prevent their deterioration and the intrusion of foreign matter. Any material which has deteriorated or which has been contaminated will not be used for concrete work.

2.2 CONCRETE MIXES

A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.

   1. Use a qualified independent Testing Agency or Ready-Mix Concrete Producer for preparing and reporting proposed concrete mixture designs for the trial batch method.

B. Proportion mixtures to provide normal-weight concrete with the following properties:

1. Minimum Compressive Strength: as indicated on Drawings.

2. Slump Limit: 4 inches, plus or minus 1 inch at point of placement.

C. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing and retarding admixture in concrete, as required, for placement and workability.

2. Chemical admixtures must be approved by the Architect prior to use.

D. Use ready-mix concrete, mixed and delivered in accordance with ASTM C 94. Uniformly and accurately control proportions of material weight. Control mixes for concrete of strengths as described in Section 03310, 2.02 B.

E. Calcium chloride shall not be used.

F. The proportions of aggregate to cement for any concrete mix shall be such as to produce a mixture which will work readily into corners and angles of the forms and around reinforcement with the method of placing employed on the work, but without permitting the materials to segregate or excess free water to collect on the surface.

G. Concrete of the strength and slump as called for on the plans and in the specifications shall be proportioned according to the American Concrete Institute's Recommended Practice 613.

H. In determining water content for all mixes of concrete, as set forth in the plans, the surface water contained in the aggregates must be included as part of the mixing water in computing the water content. Any and all admixtures shall be proportioned with this factor accounted for in computing mixing water.

PART 3 - EXECUTION

3.1 CONSTRUCTION LAYOUT

A. Layout all concrete structural work in accordance with the Contract Documents.

B. Verify prior to placement, all dimensions, alignments, anchor bolts, utilities and other building components.

3.2 PREPARATION OF FORM SURFACES

A. Coat contact surfaces of forms with a non staining form coating compound before reinforcement is placed.

B. Thin form-coating compounds only with thinning agent of type, in amount and under conditions as directed by form-coating compound manufacturer. Do not allow excess form-coating material to accumulate in forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instruction.

C. Prior to placing, forms shall be cleaned free of foreign material and shall be washed down with water. Excess debris and standing water shall be removed from forms.

D. Placing shall be a continuous operation between planned construction joints with fresh cement mixed only with plastic concrete already in place. Avoid cold joints.

E. When stoppage of concreting operation occurs for any reason, place construction joints either horizontally or vertically as needed and as approved by the Architect. All construction joints will be adequately keyed so as to provide a firm tie between the adjacent concrete pour.

3.3 MIXING

A. Delivery tickets shall show class of concrete, batch number, mix by number with maximum size aggregates, admixtures, air content, slump, and time of loading.

B. Each batch shall be mixed for at least one minute for the first cubic yard and an additional 15 seconds for each additional yard. After all ingredients are in the mixer, then the entire content of the mixing drum shall be discharged before recharging.

C. Addition of water to mix at project site must be approved by the ready-mix supplier and noted by the Testing Laboratory, and delivery ticket shall be noted with amount of water, and signed by the party adding the water. Water shall not be added at the project site unless such water was accounted for in the mix design. All testing shall be performed after the addition of water.

D. Retempering or remixing of concrete which has partially set will not be permitted.

E. Batch mixing on site will not be permitted.

F. Temperature of mixing water shall be a maximum of 55 degrees F. for cold weather concreting and a maximum of 90 degrees F. for concrete placed in hot weather. See paragraph 3.12 of this section.

3.4 PLACING CONCRETE

A. Concrete shall be placed so as to avoid segregation of materials and to prevent cold joints by avoiding re-handling, by keeping pours generally level, and by adequate vibration.

B. Placing is not to be started during rain or snow, and if placing is underway when such conditions occur, continue operations only long enough to provide a suitable construction joint.

C. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When air temperature has fallen to or is expected to fall below 40°F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50°F and not more than 80°F at point of placement.
2. Do not use frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mix designs.

D. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90°F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Do not place if concrete is over 90°F.

E. During hot weather or periods of low humidity combined with a definite breeze, rapid loss of moisture from the concrete shall be minimized prior to finishing by use of a fine fog spray or evaporation retardant. At these times particular attention shall be given to providing an adequate number of finishers to expedite this operation.

F. Vibration shall be thorough, using vibrators small enough to work within reinforcing. The vibrator shall be inserted at intervals not exceeding 80% of the vibrator's diameter of influence. Avoid under-vibration and over-

vibration of concrete. Vibrate to remove all air from concrete but not so much to produce segregation. Do not transport concrete in forms by vibration.

3.5 FINISH FOR FORMED SURFACES

A. Form Finish (for grade beams and piers, unless otherwise indicated): This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas filled, repaired and patched; and with fins and other projections exceeding 1/4" in height rubbed down or chipped off.

3.6 FINISH FOR FLOOR SLABS

A. Finish concrete floor slabs in accordance with ACI 301. Finish concrete to flatness and levelness tolerances, which correspond to F_F 35/F_L 25 minimum overall for composite for all measured values and F_F 25/F_L 18 minimum for any individual floor section. Floor Levelness (F_L) does not apply to elevated concrete slabs on metal deck.

B. Trowel finish floor surfaces scheduled for floor surfaces scheduled to receive floor covering.

C. Non-slip Broom Finish: Apply non-slip broom finish to exterior finish concrete platforms, steps, and ramps, and elsewhere as indicated. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

D. Trowel to a smooth finish after the slab is screeded and floated. Start trowelling when all water has disappeared from the surface to first level the surface, then start final trowelling when concrete has set where it no longer shows indentation from finger pressure. Trowel to a hard, smooth surface free of marks. Dusting with cement and sand will not be permitted. Application of water to the concrete surface will not be permitted prior to the initial set.

E. Grind smooth any surface defects, which would telegraph through the applied floor covering.

F. Fill any surface with defects or local flatness/levelness that does not meet the flatness specified tolerances.

3.7 CONSTRUCTION JOINTS

A. Locate construction joints in grade beams and slabs as directed by Architect or Engineer.

B. Allow concrete to set for 24 hours before any adjoining pour is started. Slabs across the joint shall be level, and the surface shall not be feathered.

C. Before proceeding with the next pour at a joint, thoroughly clean the joint, remove all loose laitance, and brush-in a thick cement slurry.

3.8 CURING

A. Keep all concrete moist for seven (7) days after placing. Cover with 4 mil polyethylene sheets, and leave forms in place, or use curing compound which does not interfere with floor finish, all combined with regular wetting as necessary. The curing process may be reduced to three days with the use of a high early-strength concrete that reaches 3,000 psf within 3 days (72 hours). The contractor shall submit a plan for curing procedures to the Architect for approval prior to any concrete pour.

3.9 MISCELLANEOUS CONCRETE ITEMS

A. Filling-In: Fill in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work. Tie in fill holes with rebar epoxy into foundation. Bars and requirements per Architect.

B. All areas under concrete floor slab shall have joints in vapor barrier lapped at least 6". Take care to lay material smooth and even, and avoid tearing or puncturing. Seal tightly at all expansion joints and spaces around pipes, conduits and other penetrations using grade 495 sensitive tape. (See Damproofing Section 07150)

3.10 CONCRETE SURFACE REPAIRS

A. Patching Defective Areas: Repair and patch defective area with cement mortar immediately after removal of forms, when acceptable to Architect.

B. Cut out honeycomb, rock pockets, voids over ¼" in any dimension and holes left by tie rods and bolts down to solid concrete but, in no case, to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface.

C. Thoroughly clean, dampen with water and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.

D. For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface. Lightly hand-sand patch after set to blend. Do NOT over patch areas or over sand surrounding areas.

E. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to specified requirements. Surface defects as such include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on surface, and stains and other discoloration that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar.

F. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.

G. Repair of Unformed Surfaces: Test unformed surface, such as monolithic slabs, for flatness and levelness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope. If defects cannot be repaired, remove and replace concrete.

H. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets and other objectionable conditions. If defects cannot be repaired, remove and replace concrete.

I. Correct high areas in unformed surfaces by grinding, after concrete has cured as least 14 days.

J. Correct low areas in unformed surfaces during or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when accepted by the Architect.

K. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose

reinforcing steel with at least ¾" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in the same manner as adjacent concrete.

L. Repair isolated random cracks and single holes no over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 15 mesh sieve, using only enough water as required for handling and placing. Place dry-pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

END OF SECTION

SECTION 05.1200

STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Furnish and install all structural steel items as indicated on the drawings and as specified herein. Extent of structural steel work is shown on drawings, including notes and details to show size and location of members, typical connections, and type of steel required.

B. Structural steel is that work defined in AISC "Code of Standard Practice" and as otherwise shown on drawings.

C. Miscellaneous Metal Fabrications are specified elsewhere in Division 5.

1.2 REFERENCES

A. AISC "Code of Standard Practice for Steel Buildings and Bridges".

B. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings", including the "Commentary" and Supplements thereto as issued.

C. AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation.

D. AWS D1.1 "Structural Welding Code".

E. ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use".

1.3 PERFORMANCE REQUIREMENTS

A. Steel fabrication and erection shall be done in compliance with AISC code.

1.4 QUALITY ASSURANCE

A. Inspection: Inspection shall be completed by the Special Inspector as indicated in the Drawings.

B. Provide certification that welders to be employed in work are AWS certified. Conduct inspections and tests as required. Record types and locations of defects found in work. Record work required and performed to correct deficiencies. Inspect and test during erection of structural steel for compliance with AWS D1.1.

C. Correct deficiencies in structural steel work which inspections and laboratory test reports have indicated to be not in compliance with requirements. Perform additional tests, at Contractor's expense, as may be necessary to reconfirm any non-compliance of original work, and as may be necessary to show compliance of corrected work.

1.5 SUBMITTALS

A. Shop Drawings: Submit shop drawings including complete details and schedules for fabrication and assembly of structural steel members procedures and diagrams.

1. Include details of cuts, connections, camber, holes, and other pertinent data. Indicate welds by

standard AWS symbols, and show size, length, and type of each weld.

2. Provide setting drawings, templates, and directions for installation of anchor bolts and other anchorages to be installed by others.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials in a location and manner to keep mud, oil, and rust from contaminating product.

B. Deliver anchor bolts and anchorage devices, which are to be embedded in cast-in-place concrete in ample time to not delay that work.

C. Store materials to permit easy access for inspection and identification. Keep steel members off ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration.

D. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures.

PART 2 PRODUCTS

2.1 MATERIALS

A. High-Strength Low-Alloy Steel: ASTM A 242 or ASTM A 588.

B. Structural Steel Shapes, Plates and Bars: ASTM A 36, ASTM A992 for all wide flange beams and columns.

C. Cold-Formed Steel Tubing: ASTM A 500, Grade B.

D. Hot-Formed Steel Tubing: ASTM A 501.

E. Steel Pipe: ASTM A 53, Type E or S, Grade B.

F. Anchor Rods: ASTM F 1554 (36 ksi or 55 ksi), as indicated in the Drawings.

H. High-Strength Threaded Fasteners: Heavy hexagon structural bolts, heavy hexagon nuts, and hardened washers, as follows:

I. Structural Steel Primer Paint: Fabricator's standard rust-inhibiting primer, gray in color. Do not paint any surfaces which will receive a sprayed-on fireproofing coating.

J. Non-Metallic Shrinkage-Resistant Grout: Corps of Engineers CRD-C588, Type M, pre-mixed factory-packaged aggregate grouting compound.

2.2 FABRICATION

A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications and as indicated on final shop drawings

2.3 FINISHES

A. Solvent clean prior to other cleaning to remove any oil or grease.

B. Hand clean with wire brushes or equal to remove all loose scale and paint.

C. Metal Surfaces, General: For fabrication of work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness. Remove such blemishes by grinding, or by welding and grinding, prior to cleaning, treating and application of surface finishes.

PART 3 EXECUTION

3.1 EXAMINATION

A. Visually determine that Project is ready to begin the work of this Section; beginning of work indicates acceptance of conditions. Notify Architect in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Architect.

3.2 PREPARATION

A. Furnish templates and other devices as necessary for presetting bolts and other anchors to accurate locations.

B. Setting Bases and Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base and bearing plates.

3.3 INSTALLATION

A. Anchor Rods: Furnish anchor rods and other connectors required for securing structural steel to foundations and other in-place work as indicated in the Drawings.

B. Set loose and attached base plates and bearing plates for structural members on leveling nuts.

C. Tighten anchor bolts after supported members have been positioned and plumbed.

D. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.

E. Field Assembly: Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming a part of a complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces which will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

F. High-Strength Bolted Construction: Install high-strength threaded fasteners in accordance with AISC "Specifications for Structural Joints using ASTM A 325 Bolts" (RCRBSJ).

G. Welded Construction: Comply with AWS Code for procedures, appearance and quality of welds, and methods used in correcting welding work.

3.4 TOLERANCES

A. Will be as per AISC recommendations.

3.5 ADJUSTING

A. Adjust members as necessary to be compatible with final product. Notify Architect before substantially altering any member.

3.6 CLEANING

A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint. Apply paint to exposed areas using same material as used for shop painting.

END OF SECTION

ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Rough opening framing for doors, windows, and roof openings.

B. Roofing nailers.

C. Preservative treated wood materials.

D. Communications and electrical room mounting boards.

E. Concealed wood blocking, nailers, and supports.

F. Miscellaneous wood nailers, furring, and grounds.

1.2 RELATED REQUIREMENTS

A. Section 07.6200 - Sheet Metal Flashing and Trim: Sill flashings.

1.3 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

C. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.

D. PS 1 - Structural Plywood; 2009.

E. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.

F. PS 20 - American Softwood Lumber Standard; 2010.

1.4 SUBMITTALS

A. See Section 01.3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on wood preservative materials and application instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

B. For lumber and plywood pressure treated with waterborne chemicals, sticker between each course to provide air circulation.

1.6 WARRANTY

A. See Section 01.7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

B. Lumber fabricated from old growth timber is not permitted.

C. Provide wood for support or attachment of other work including rooftop equipment curbs and suport bases, cant strips, bucks, nailers, blocking, furrring, grounds, stripping and similar members. Provide lumber of sizes indicated, workded into shapes shown, as as follows:
   1. Moisture Content: 19% maximum for lumber items not specified to receive wood preservative treatment.
   2. Grade: No. 2 common Southern per SPIB rules.

2.2 DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. For framing lumber, use No. 2 kiln dried Southern Yellow Pine.

C. Moisture Content: 19% maximum moisture content at the time of permanent incorporation into the structure.

D. Provide lumber with 15% maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness, unless otherwise indicated.

E. Stud Framing (2 by 2 through 2 by 6 (50 by 50 mm through 50 by 150 mm)):
   1. Species: Southern Pine.
   2. Grade: No. 2.

F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.3 STRUCTURAL GLUE-LAMINATED MEMBERS

A. Glue-laminated Members: sized as shown, with laminating combinations that will provide minimum allowable design values of 2,400 PSI for extreme fiber stress in bending (Fb), 215 psi shear stress, and a modulus of elasticity of 1.8×10^6 psi. Materials manufacturer and quality control shall be in conformance with ANSI A190.1-2017. Members shall be marked with an AITC Quality Inspected Mark indicating conformance with this standard.

   1. Lumber Species: Southern pine
   2. Appearance: Premium Appearance Grade complying with AITC 110.
   3. Adhesive: ANSI A190.1, wet-use type.
   4. Pressure Treatment: Glulam members shall be pressure treated with Pentachlorophenol in mineral spirits prior to gluing in accordance with AITC 109 “Standard for Preservative Treatment of Structural Glued-Laminated Timber.” Pressure treat for an above ground application at 0.3 pcf.
   6. Factory Finish: Factory finish with (1) coat of manufacturer’s semi-transparent, oil-based stain. Color to be chosen by the Architect. Contractor shall submit color selection samples of finish for approval.
   7. Members shall be individually wrapped with a water-resistant covering for protection during shipment and storage.

2.4 CONSTRUCTION PANELS

A. Wall and Roof Sheathing: Plywood or OSB of the thickness indicated in the Drawings and conforming to the requirements for their type in U.S. Product Standard PS1 or PS2. All plywood and OSB shall be marked with an APA Trademark that states the panel grade, span rating, tongue-and-groove, bond classification, and thickness.

B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch (19 mm) thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.5 ACCESSORIES

A. Fasteners and Anchorage: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts,

washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.

B. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

C. Sill Flashing: As specified in Section 07.6200.

2.6 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:
   1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
      a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
      b. Treat lumber exposed to weather.
      c. Treat lumber in contact with roofing, flashing, or waterproofing.
      d. Treat lumber in contact with masonry or concrete.
      e. Treat lumber less than 18 inches (450 mm) above grade.
   2. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
      a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
      b. Treat plywood in contact with roofing, flashing, or waterproofing.
      c. Treat plywood in contact with masonry or concrete.
      d. Treat plywood less than 18 inches (450 mm) above grade.
   3. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4A, Commodity Specification A using waterborne preservative.
      a. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.

PART 3 EXECUTION

3.1 PREPARATION

A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches (100 mm) and seal.

B. Coordinate installation of rough carpentry members specified in other sections.

3.2 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.3 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.4 INSTALLATION OF CONSTRUCTION PANELS

A. Wall and Roof Sheathing: Secure decking perpendicular to framing members with ends staggered over firm bearing where possible.
   1. Maintain deck joints of 1/8 inch (1.6mm).
   2. Surface Flatness: +\-1/4" (6mm) in 10 feet maximum.

B. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches (610 mm) on center on all edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.

3.5 TOLERANCES

A. Framing Members: 1/4 inch (6 mm) from true position, maximum.

B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

3.6 FIELD QUALITY CONTROL

A. See Section 01.4000 - Quality Requirements, for additional requirements.

3.7 CLEANING

A. Waste Disposal: Comply with the requirements of Section 01.7419 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

Metal Roof Panels

PART 1 GENERAL

1. SECTION INCLUDES
   - A. Architectural roofing system of preformed aluminum panels.
   - B. Attachment system.
   - C. Finishes.
   - D. Accessories.
2. RELATED REQUIREMENTS
   - A. Section 05.1200 - Structural Steel Framing.
   - B. Section 06.1000 - Rough Carpentry.
   - C. Section 07.9200 - Joint Sealants.
3. SUBMITTALS
   - A. See Section 01.3000 - Administrative Requirements, for submittal procedures.
   - B. Product Data: Manufacturer's data sheets on each product to be used, including:
     1. Storage and handling requirements and recommendations.
     2. Installation methods.
     3. Specimen warranty.
   - C. Shop Drawings: Include layouts of roof panels, details of edge and penetration conditions, spacing and type of connections, flashings, underlayments, and special conditions.
     1. Show work to be field-fabricated or field-assembled.
     2. Include structural analysis signed and sealed by qualified structural engineer, indicating compliance of roofing system to specified loading conditions.
   - D. Selection Samples: For each roofing system specified, submit color chips representing manufacturer's full range of available colors and patterns.
     1. Allow for (3) larger size selection/verification samples.
   - E. Verification Samples: For each roofing system specified, submit samples of minimum size 12 inches (305 mm) square, representing actual roofing metal, thickness, profile, color, and texture.
     1. Include typical panel joint in sample.
     2. Include typical fastening detail.
   - F. Test Reports: Indicate compliance of metal roofing system to specified requirements.
   - G. Warranty: Submit specified manufacturer's warranty and ensure that forms have been completed in Owner's name and are registered with manufacturer.
4. QUALITY ASSURANCE
   - A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
   - B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.
5. WARRANTY
   - A. See Section 01.7800 - Closeout Submittals, for additional warranty requirements.
   - B. Galvalume Substrate Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
     1. Failures include, but are not limited to, the following:
        - a. Structural failures including rupturing, or perforating.
        - b. Deterioration of metals and other materials beyond normal weathering.
     2. Verify available warranties and warranty periods for metal panels.

3. Warranty Period: 20 years and 6 months from date of Substantial Completion.

C. Finish Warranty: Provide manufacturer's special warranty covering failure of factory-applied exterior finish on metal roof panels and agreeing to repair or replace panels that show evidence of finish degradation, including significant fading, chalking, cracking, or peeling within specified warranty period of 20 year period from date of Substantial Completion.

D. Waterproofing Warranty: Provide manufacturer's warranty for weathertightness of roofing system, including agreement to repair or replace roofing that fails to keep out water within specified warranty period of 5 years from date of Substantial Completion.

E. Special Installer Warranty: Furnish a written warranty signed by the Panel Applicator guaranteeing materials and workmanship for watertightness of the roofing system, flashings, penetrations, and against all leaks.

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 PRODUCTS

1. MANUFACTURERS
   A. Metal Roof Panels:
      1. BASIS OF DESIGN: MBCI: LOKSEAM snap-together standing seam roof panel system.
         a. Vertical Rib: 1-3/4"
         b. Coverage Width: 12"
         c. Metal Guage: 24
      2. or approved equal..
   B. Substitutions: See Section 01.6000 - Product Requirements.
2. ATTACHMENT SYSTEM
   A. Concealed System: Provide manufacturer's standard stainless steel or nylon-coated aluminum concealed anchor clips designed for specific roofing system and engineered to meet performance requirements, including anticipated thermal movement.
3. FABRICATION
   A. Panels: Provide factory fabricated panels with applied finish and accessory items, using manufacturer's standard processes as required to achieve specified appearance and performance requirements.
   B. Joints: Provide captive gaskets, sealants, or separator strips at panel joints to ensure weathertight seals, eliminate metal-to-metal contact, and minimize noise from panel movements.
4. FINISHES
   A. Two Coat Fluoropolymer Coating System: Manufacturer's standard multi-coat thermocured coating system, including minimum 70 percent fluoropolymer color topcoat with minimum total dry film thickness of [.10] mil ([___] mm); color and gloss as selected from manufacturer's standards.
      1. Reverse-roll panels to provide pvdf coating at underside of roof panel.
      2. Finish color basis of design: MBCI Signature 300 Standard Colors series; final color selection to be made by architect.
5. ACCESSORIES
   A. Miscellaneous Sheet Metal Items: Provide flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, and equipment curbs of the same material, thickness, and finish as used for the roofing panels. Items completely concealed after installation may optionally be made of stainless steel.
   B. Rib and Ridge Closures: Provide prefabricated, close-fitting components of steel with corrosion resistant finish or combination steel and closed-cell foam.
   C. Sealants:

1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
2. Concealed Sealant: Non-curing butyl sealant or tape sealant.
3. Seam Sealant: Factory-applied, non-skinning, non-drying type.

6. FABRICATION
   A. Factory Fabrication Panels: Fabricate and finish panels and accessory items at factory, using manufacturer's standard processes as required to achieve specified appearance and performance requirements.
   B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
      1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
      2. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
      3. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
         a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

PART 3 EXECUTION

1. EXAMINATION
   A. Do not begin installation of preformed metal roof panels until substrates have been properly prepared.
   B. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
      1. Retain one or both subparagraphs below.
      2. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.
      3. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
         a. Retain subparagraph below with subparagraph above for systems that depend on air- or water-resistive barriers to prevent air infiltration or water penetration.
         b. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
   C. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
   D. Proceed with installation only after unsatisfactory conditions have been corrected.
   E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
2. INSTALLATION
   A. Overall: Install roofing system in accordance with approved shop drawings and panel manufacturer's instructions and recommendations, as applicable to specific project conditions. Anchor all components of roofing system securely in place while allowing for thermal and structural movement.
      1. Install roofing system with concealed clips and fasteners, except as otherwise recommended by manufacturer for specific circumstances.

2. Minimize field cutting of panels. Where field cutting is absolutely required, use methods that will not distort panel profiles. Use of torches for field cutting is absolutely prohibited.

B. Self-Adhering Sheet Underlayment Installation: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated [below] [on Drawings], wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (152 mm) staggered 24 inches (610 mm) between courses. Overlap side edges not less than 36 inches (914.4 mm).[Extend underlayment into gutter trough.] Roll laps with roller. Cover underlayment within 14 days or as directed by the underlayment product manufacturer.
   1. Apply over the entire roof surface.

C. Accessories: Install all components required for a complete roofing assembly, including flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, equipment curbs, rib closures, ridge closures, and similar roof accessory items.

D. Roof Panels: Install panels in strict accordance with manufacturer's instructions, minimizing transverse joints except at junction with penetrations.
   1. Form weathertight standing seams incorporating concealed clips, using an automatic mechanical seaming device approved by the panel manufacturer.
   2. Incorporate concealed clips at panel joints, and apply snap-on battens to provide weathertight joints.

3. CLEANING

A. Clean exposed sheet metal work at completion of installation. Remove grease and oil films, excess joint sealer, handling marks, and debris from installation, leaving the work clean and unmarked, free from dents, creases, waves, scratch marks, or other damage to the finish.

4. PROTECTION

A. Do not permit storage of materials or roof traffic on installed roof panels. Provide temporary walkways or planks as necessary to avoid damage to completed work. Protect roofing until completion of project.

B. Touch-up, repair, or replace damaged roof panels or accessories before Date of Substantial Completion.

END OF SECTION

SECTION 31.1000

EARTHWORK FOR BUILDINGS

PART 1 - GENERAL

1.1 EXISTING SITE CONDITIONS

A. All utilities and services, whether shown on the drawings or not, shall be suitably protected and maintained, and any damages thereto shall be promptly repaired. The Owner shall be advised immediately of any damages sustained. If any extra expense is incurred due to the existence of buried utilities not shown on the drawings, or the location of which is not made known to the Contractor, the contract price shall be adjusted in accordance with the General Conditions.

B. The Contractor shall be responsible to raise or lower existing manholes, catch basins, and other existing structures to be compatible with the new earthwork slopes and elevations.

1.2 TESTING

A. All tests shall be made by a Testing Laboratory approved by the Architect and employed by the Contractor.

B. Testing shall be completed as recommended in the Geotechnical Report referenced in Section 00.3132.

C. Field density tests shall be made as prescribed by ASTM D2922. Other test methods shall be pre-approved by the Architect.

D. For select fill material, the mechanical analysis shall be by ASTM D422. The liquid and plastic limit determination shall be made by ASTM D423.

E. Tests failing to meet specifications shall be retested. Replace or rework materials that fail to meet test specifications.

1.3 DEFINITIONS

A. Excavation: Cutting, digging and removing all materials of every description, including foundations and rock, and of whatever substance encountered to the dimensions, limits, elevations and contours as shown on the drawings and as herein specified and subsequent disposal of materials removed.

B. Building Area: The term building area is defined as the interior plan area plus an exterior perimeter strip with a minimum width of 7 feet outside the building footprint. This does not include the existing building.

PART 2 - PRODUCTS

2.1 BORROW

A. The Contractor shall furnish and place suitable material and shall fill and compact as recommended in the Geotechnical Report (Section 00.3132) and as specified in this section.

B. Select fill soils used in the building area shall be:
   1. Nonorganic, debris-free Silty Clays (CL) having a liquid limit not more than 45 and a plasticity index between 10 and 24 percent and not less than 70 percent fines passing the No. 200 sieve.

   2. Select fill materials shall be approved by the Geotechnical Engineer or Testing Laboratory.

PART 3 - EXECUTION

3.1 DEWATERING

A. The Contractor shall be responsible for all surface drainage, and rain entering the site and building excavation or foundation, and shall remove such water.

B. The Contractor shall keep the area graded at all times to facilitate the runoff of surface waters and maintain a dry working area. Existing earth or fill in the building area which becomes too wet from any cause shall be disked as to allow drying and recompaction. The Testing Laboratory shall approve moisture conditions prior to construction of concrete foundations.

3.2 SITE PREPARATION

A. Stripping shall be performed within the Building Area to a sufficient depth to remove existing pavements, debris, organic matter, topsoil and any weak or high moisture content surficial soils.

B. The Building Area shall be undercut to remove a sufficient thickness of the expansive clays (CH) to create a minimum 7-foot thick buffer of select fill. The undercutting must extend to a depth of 7 feet below the bottom of the slab, or 7 feet below the finished grade at the perimeter of the building, whichever provides the deepest undercut. The undercut must extend a minimum of 7 feet beyond the perimeter of the building foundation. The contractor shall employ the Geotechnical Engineer to monitor the undercutting procedures to verify a proper soil buffer is provided.

C. All fills shall be constructed at the locations and to the contours, elevations and sections shown on the drawings and as described in the preceding paragraphs.

D. Any unsuitable material within the Building Area shall be removed. Unsuitable material is defined as material that will not reach stability. Stability shall be verified by means of proof-rolling observed by the Geotechnical Engineer and/or the Testing Laboratory as indicated in the Geotechnical Report. Pumping soils shall be removed and replaced as directed by the Geotechnical Engineer and/or the Testing Laboratory.

E. After stripping and any excavation, the surface of the exposed soils shall be scarified to a minimum depth of 6 inches and compacted to not less than 95 percent of standard Proctor maximum dry density (ASTM D 698).

F. Fill shall be placed in loose lifts not exceeding 9 inches and shall be compacted at moisture contents within 3 percentage points of the optimum water content (ASTM D 698) to a minimum of 95% of maximum dry density as determined by the standard Proctor (ASTM D 698) test. If water is added, it shall be uniformly applied and thoroughly mixed into the soil by disking or scarifying. Field density tests shall be completed at a rate specified by the Geotechnical Engineer and/or the Testing Laboratory to confirm proper density has been reached for each lift prior to placing subsequent lifts. Field density tests shall be taken at a frequency of not less than one test for each lift per 2,500 square foot of surface area in the Building Area. The surface of each lift shall be scarified prior to placement of subsequent lifts.

G. Finished site grades shall be sloped to promote quick runoff of storm water away from the building.

H. The Architect shall be notified of any questionable materials discovered during site preparation.

END OF SECTION

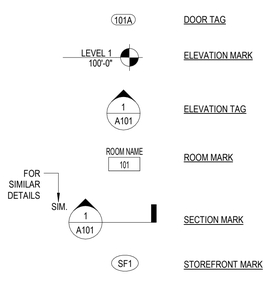
ARCHITECTURAL ABBREVIATIONS

∠	ANGLE
&	AND
@	AT
A/C	AIR CONDITIONING
ACM.	ASBESTOS CONTAINING MATERIALS
ACOUS.	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
A/E	ARCHITECT/ENGINEER
A.F.F.	ABOVE FINISHED FLOOR
A.H.U.	AIR HANDLING UNIT
ALT.	ALTERNATE
ALUM.	ALUMINUM / ALUMINIUM
A.P.C.	ARCHITECTURAL PRECAST CONCRETE
A.P.	ACCESS PANEL
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASPH.	ASPHALT
ASY.	ASSEMBLY
ATTEN.	ATTENUATION
A.V.	AUDIO/VISUAL
BD.	BOARD
BIT.	BITUMINOUS
BLDG.	BUILDING
BLKG.	BLOCKING
BM.	BEAM
B.M.	BENCH MARK
BOT.	BOTTOM
BRG.	BEARING
BRZ.	BRONZE
B/U	BUILT-UP
B.U.R.	BUILT-UP ROOF
[/ CH.	CHANNEL
CAB.	CABINET
C.B.	CATCH BASIN
CEM.	CEMENT
CER.	CERAMIC
CFS	COLD FORMED STEEL
C.G.	CORNER GUARD
C.I.	CONTINUOUS INSULATION
CJ	CONTROL JOINT
CLG.	CEILING
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
C.O.	CASED OPENING
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
COORD.	COORDINATE
CPT.	CARPET
C.R. CH.	COLD-ROLLED CHANNEL
CT	CERAMIC TILE
CTSK.	COUNTERSUNK
DBL.	DOUBLE
DEMO.	DEMOLITION / DEMOLISHED
DEPT.	DEPARTMENT
DTL.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DN.	DOWN
DP.	DAMPPROOFING
DS.	DOWNSPOUT
DWGS.	DRAWINGS
E.	EAST
EA.	EACH
E.D.F.	ELECTRICAL DRINKING FOUNTAIN
E.F.	EXHAUST FAN
E.I.F.S.	EXTERIOR INSULATION & FINISH SYSTEM
E.J.	EXPANSION JOINT
ELEC.	ELECTRICAL
EL.	ELEVATION
ELEV.	ELEVATOR
EMER.	EMERGENCY
ENCL.	ENCLOSURE
E.P.	EPOXY PAINT
EQ.	EQUAL
EQUIP.	EQUIPMENT
EST.	ESTIMATED
E.W.	EACH WAY
EXH.	EXHAUST
EXP.	EXPANSION
EXPO.	EXPOSED
EXIST.	EXISTING
EXT.	EXTERIOR
F.A.P.	FIRE ALARM PANEL
FD	FLOOR DRAIN
FNDN.	FOUNDATION
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.F.	FINISH FLOOR
F.F.E.	FINISH FLOOR ELEVATION
F.H.	FIRE HYDRANT
F.H.C.	FIRE HOSE CABINET
FIN.	FINISH
FIXT.	FIXTURE
FLR.	FLOOR
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
FP.	FIRE PROTECTION / FIREPROOFING
F.S.	FULL SIZE
'	FOOT / FEET
FTG.	FOOTING
FURN.	FURNISHED
FURR.	FURRING
F.W.C.	FABRIC WALL COVERING
GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRAB BAR
GRD.	GRADE
G.C.	GENERAL CONTRACTOR
GL.	GLASS / GLAZING
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
H.B.	HOSE BIB
H.C.	HOLLOW CORE
H.C. / HCP.	HANDICAP
HCWD.	HOLLOW CORE WOOD
HDWE.	HARDWARE
HT.	HEIGHT
HISTORIC.	HISTORICAL
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
H.R.	HANDRAIL
HVAC.	HEATING, VENTILATING, & AIR CONDITIONING
"	INCH
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
I.P.	IRON PIPE
JAN.	JANITOR
J.B.	JOIST BRG.
JT.	JOINT
K.O.	KNOCK DOWN
L.A.T.	LAY-IN ACOUSTICAL TILE
LAM.	LAMINATE
LAV.	LAVATORY
LBP.	LEAD BASED PAINT
LBS.	POUNDS
LT.	LIGHT
LT. WT.	LIGHT WEIGHT
LVR.	LOUVER
MAS.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
MEMB.	MEMBRANE
MFGR.	MANUFACTURER
MH.	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
M.R. GYP. BD.	MOISTURE RESISTANT GYPSUM BOARD
MTD.	MOUNTED
MTL.	METAL
MATL.	MATERIAL
MIR.	MIRROR
MULL.	MULLION
N.	NORTH
N/A	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
#	NUMBER
NOM.	NOMINAL
O.A.	OUTSIDE AREA
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OPH	OPPOSITE HAND
OH.	OVERHEAD
OPNG.	OPENING
OPP.	OPPOSITE
ORIG.	ORIGINAL
O.S.	OVERFLOW SCUPPER
OTLN.	OUTLINE
OV.D.	OVERFLOW DRAIN
#	POUND
PBD.	PARTICLE BOARD
PC. CONC.	PRECAST CONCRETE
PLAM.	PLASTIC LAMINATE
P.I.P.	POURED-IN-PLACE
P.L.	PROPERTY LINE
PL.	PLATE
PLAS.	PLASTER
POL.	POLISHED
PR.	PAIR
PRE-FAB.	PRE-FABRICATED
PRE-FIN.	PRE-FINISHED
PTD.	PAINTED
PARTN.	PARTITION
PVMT.	PAVEMENT
PLYWD	PLYWOOD
RAD.	RADIUS
R.A.G.	RETURN AIR GRILLE
RB	RUBBER BASE
RC.	RESILIENT CHANNEL
RCP	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
RD.	ROUND
REF.	REFERENCE / REFER
REINF.	REINFORCED / REINFORCEMENT
REQ'D	REQUIRED
RESIL.	RESILIENT
R.H.	ROBE HOOK
RM.	ROOM
R.O.	ROUGH OPENING
S.	SOUTH
SC	SOLID CORE
SCHED.	SCHEDULE
S.C.WD.	SOLID CORE WOOD
S.D.	SOAP DISPENSER
SEAL.	SEALANT
SECT.	SECTION
SER. SK.	SERVICE SINK
SHT.	SHEET
SHVS.	SHELVES
SHWR.	SHOWER
SIM. / SIM	SIMILAR
SP.	SPLASH BLOCK
SPEC.	SPECIFICATION / SPECIFIED
SQ.	SQUARE
SQ. FT.	SQUARE FEET
SS	SANITARY SEWER
S.S.	STAINLESS STEEL
S.T.C.	SOUND TRANSMISSION COEFFICIENT
STD.	STANDARD
ST. DR.	STORM DRAIN
STL.	STEEL
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
SYS.	SYSTEM
SYN.	SYNTHETIC
T.B.	TOWEL BAR
T.C.	TOP OF CURB
TEL.	TELEPHONE
TEMP.	TEMPORARY
T&G	TONGUE & GROOVE
THRES.	THRESHOLD
THK.	THICK / THICKNESS
T.O.S.	TOP OF STEEL
TYP.	TYPICAL
U.H.	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
U.P.S.	UNINTERRUPTABLE POWER SUPPLY
U.S.	UTILITY SHELF
VCT	VINYL COMPOSITION TILE
VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD
V.O.J.	VERIFY ON JOB
V.T.R	VENT-THRU-ROOF
V.W.C.	VINYL WALL COVERING
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
WDW.	WINDOW
WH	WATER HEATER
W/O	WITHOUT
W.P.	WATERPROOF
WSCT.	WAINSCOT
WT.	WEIGHT
W.W.M.	WELDED WIRE MESH

MATERIALS LEGEND

- BRICK
- CONCRETE
- CONCRETE MASONRY UNITS
- GRAVEL
- GROUT
- GYPSUM BOARD
- INSULATION (BATT)
- INSULATION (RIGID)
- METAL
- SHEATHING
- WOOD (SOLID WOOD)
- WOOD (CONTINTUOUS BLOCKING)
- WOOD (DISCONTINTUOUS BLOCKING)
- WATERPROOFING /DAMP PROOFING

SYMBOLS LEGEND



GENERAL NOTES

1. NOTES APPEAR ON VARIOUS DRAWINGS FOR VARIOUS DISCIPLINES FOR DIFFERENT SYSTEMS AND MATERIALS. REVIEW ALL SHEETS AND APPLY NOTES TO RELATED BUILDING COMPONENTS.

2. REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR OTHER APPLICABLE NOTES, ABBREVIATIONS, AND SYMBOLS.

3. WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.

4. ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.

5. PARTITION TYPES AND FIRE RESISTIVE RATINGS INDICATED ON A WALL ARE TO BE CONTINUOUS FOR THE LENGTH AND HEIGHT OF A PARTITION.

6. OPENINGS IN RATED WALL, FLOOR, CEILING AND ROOF ASSEMBLIES SHALL BE SEALED WITH PENETRATION SEALANT SYSTEMS MEETING OR EXCEEDING THE REQUIRED FIRE RESISTIVE RATINGS.

7. MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.

8. PROVIDE CONTINUOUS PERIMETER FIRE SAFING BETWEEN FLOORS AND COORDINATE THE INSTALLATION WITH THE EXTERIOR WALL. FIRE RATING OF SAFING SHALL MATCH FIRE RATING OF FLOOR CONSTRUCTION.

9. DO NOT SCALE THE DRAWINGS.

10. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS.

11. PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF TOILET PARTITIONS, DOORS AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, OPERABLE PARTITIONS, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.

12. COORDINATE ALL BASE AND HOUSEKEEPING PADS WITH MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT.

13. LOCATE ACCESS PANELS AS INDICATED ON DRAWINGS. FOR ACCESS PANELS NOT SHOWN BUT REQUIRED BY PROVISIONS OF THE CONTRACT DOCUMENTS, LOCATED IN ACCORDANCE WITH APPLICABLE CODES. SUBMIT PROPOSED LOCATIONS TO THE ARCHITECT FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION.

PROJECT TEAM

OWNER

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CHRIS GREEN, P.E.
cgreen@thepowersource.us

PROJECT DESCRIPTION

THE PROJECT INCLUDES THE ADDITION OF A WALKING TRAIL CONNECTING THE MISSISSIPPI MUSEUM OF NATURAL SCIENCE AND THE MISSISSIPPI CHILDREN'S MUSEUM WITH EXHIBIT PADS ALONG THE PATH.
THE PROJECT ALSO INCLUDES THE ADDITION OF A NEW OPEN AIR PAVILION, SUPPORTING PARK SIDEWALKS, AND SITE PREP/GRADING FOR A SLOPING LAWN ADJACENT TO THE PAVILION.

VICINITY MAP

DRAWING INDEX

INDEX OF DRAWINGS

SHEET NUMBER	SHEET NAME	CD - 11/09/21	ADDENDUM 01 - 11/17/21
01 - REFERENCE			
R000	COVER SHEET	X	
R100	PROJECT INFO	X	X
02 - CIVIL			
C001	TOPOGRAPHIC SURVEY	X	
C002	TREE SURVEY	X	
C100	GENERAL NOTES	X	
C200	EXISTING CONDITIONS & DEMOLITION PLAN	X	
C300	SITE PLAN	X	X
C400	GRADING & DRAINAGE PLAN	X	X
C500	EROSION CONTROL PLAN	X	
C600	CONSTRUCTION DETAILS	X	
05 - ARCHITECTURE			
A100	ARCHITECTURAL SITE PLAN		X
A101	PAVILION		X
A201	ENLARGED ELEVATIONS		X
A301	DETAILS		X
06 - STRUCTURAL			
S1.0	STRUCTURAL NOTES		X
S1.1	STRUCTURAL QUALITY ASSURANCE		X
S2.0	FOUNDATION & ROOF FRAMING PLAN		X
S2.1	SHEAR WALL PLAN		X
S3.0	DETAILS		X
S3.1	DETAILS		X
10 - ELECTRICAL			
E0.0	ELECTRICAL LEGEND	X	X
E0.1	ELECTRICAL DETAILS	X	
E0.2	ELECTRICAL DETAILS	X	
E1.0	RENOVATION SITE PLAN - 1B	X	
E1.1	RENOVATION SITE PLAN - 1B	X	X
E2.0	LIGHTING/POWER PLANS		X

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

JOHN M. ALLIN
4812
REGISTERED ARCHITECT
STATE OF MISSISSIPPI

09 NOVEMBER 2021

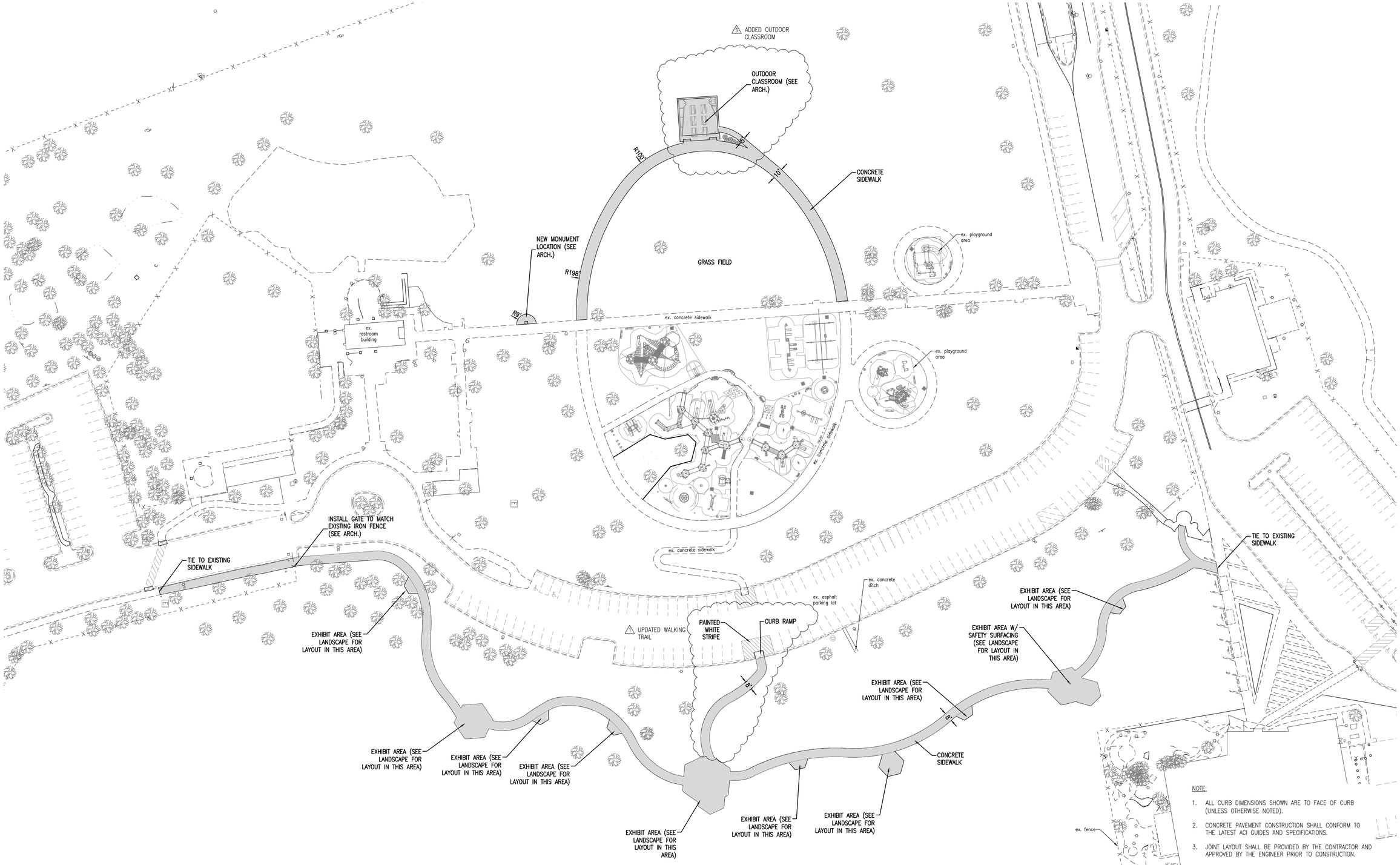
CONSTRUCTION DOCUMENTS

WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

R100
PROJECT INFO



NOTE:

1. ALL CURB DIMENSIONS SHOWN ARE TO FACE OF CURB (UNLESS OTHERWISE NOTED).
2. CONCRETE PAVEMENT CONSTRUCTION SHALL CONFORM TO THE LATEST ACI GUIDES AND SPECIFICATIONS.
3. JOINT LAYOUT SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

NORTH

0 20 40 80

1 INCH = 40 FEET

Pickering

Pickering Firm, Inc.
Facility Design • Civil Engineering • Surveying •
Transportation • Natural / Water Resources
2001 Airport Road, Suite 201
Flowood, MS 39232
601.956.3663

WBA ARCHITECTURE

GS# 610-012 MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

JONATHAN A. JOHNSON
REGISTERED PROFESSIONAL ENGINEER
11-9-21
20252
STATE OF MISSISSIPPI

09 NOVEMBER 2021

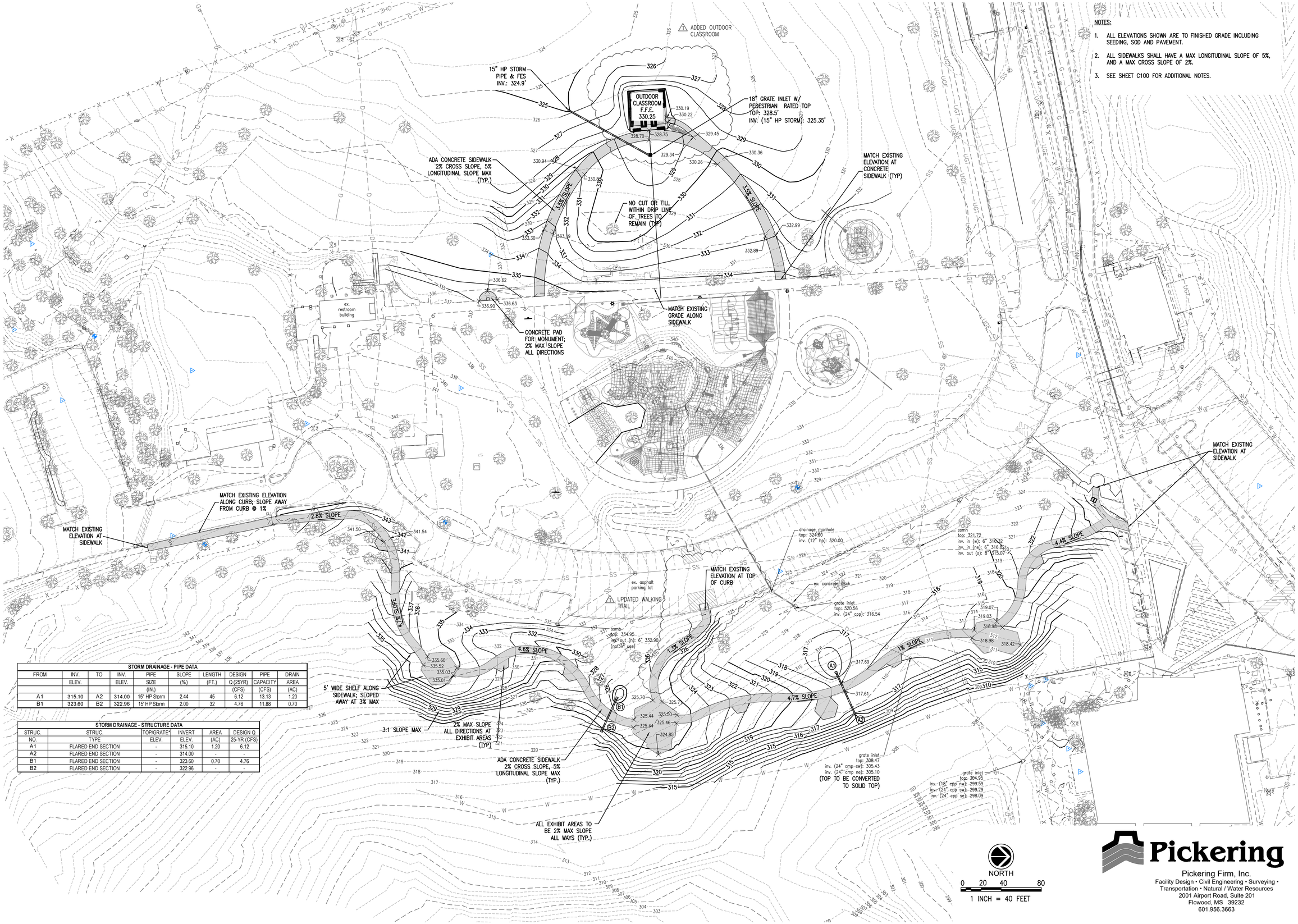
CONSTRUCTION DOCUMENTS

WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

C300
SITE PLAN



NOTES:

1. ALL ELEVATIONS SHOWN ARE TO FINISHED GRADE INCLUDING SEEDING, SOD AND PAVEMENT.
2. ALL SIDEWALKS SHALL HAVE A MAX LONGITUDINAL SLOPE OF 5%, AND A MAX CROSS SLOPE OF 2%.
3. SEE SHEET C100 FOR ADDITIONAL NOTES.

STORM DRAINAGE - PIPE DATA

FROM	INV. ELEV.	TO	INV. ELEV.	PIPE SIZE (IN.)	SLOPE (%)	LENGTH (FT.)	DESIGN Q (25YR) (CFS)	PIPE CAPACITY (CFS)	DRAIN AREA (AC)
A1	315.10	A2	314.00	15" HP Storm	2.44	45	6.12	13.13	1.20
B1	323.60	B2	322.96	15" HP Storm	2.00	32	4.76	11.88	0.70

STORM DRAINAGE - STRUCTURE DATA

STRUC. NO.	STRUC. TYPE	TOP/GRATE* ELEV.	INVERT ELEV.	AREA (AC)	DESIGN Q 25-YR (CFS)
A1	FLARED END SECTION	-	315.10	1.20	6.12
A2	FLARED END SECTION	-	314.00	-	-
B1	FLARED END SECTION	-	323.60	0.70	4.76
B2	FLARED END SECTION	-	322.96	-	-

NORTH

0 20 40 80

1 INCH = 40 FEET

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

JONATHAN A. JOHNSON
REGISTERED PROFESSIONAL ENGINEER
11-9-21
20252
STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

WBA # 0619

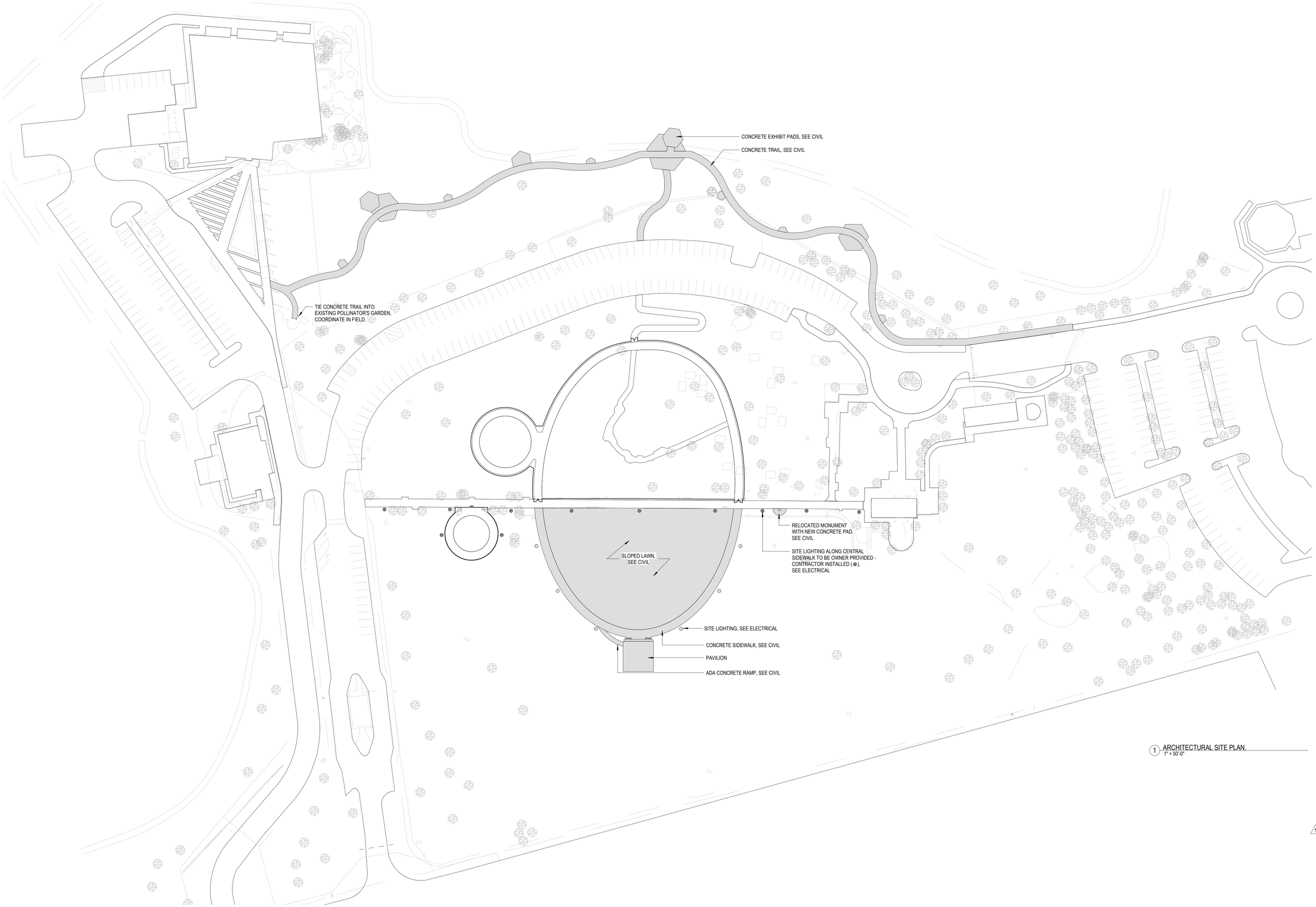
REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

Pickering

Pickering Firm, Inc.
Facility Design • Civil Engineering • Surveying •
Transportation • Natural / Water Resources
2001 Airport Road, Suite 201
Flowood, MS 39232
601.956.3663

C400
GRADING & DRAINAGE PLAN



1 ARCHITECTURAL SITE PLAN.
1" = 50'-0"

WBA
ARCHITECTURE

GS# 610-012 MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

REGISTERED ARCHITECT
JOHN M. LAUMAN
4812
STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

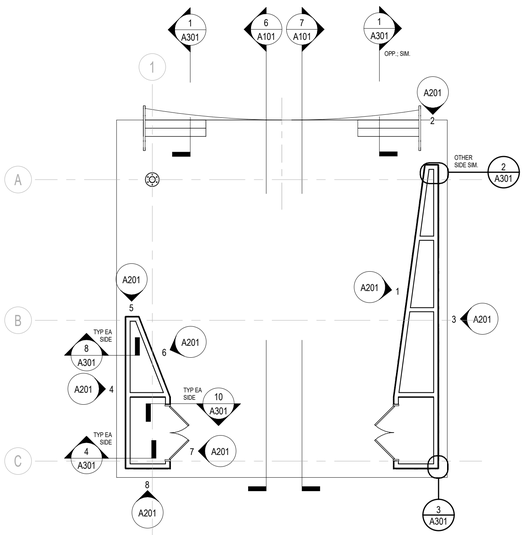
WBA # 0619

REVISIONS

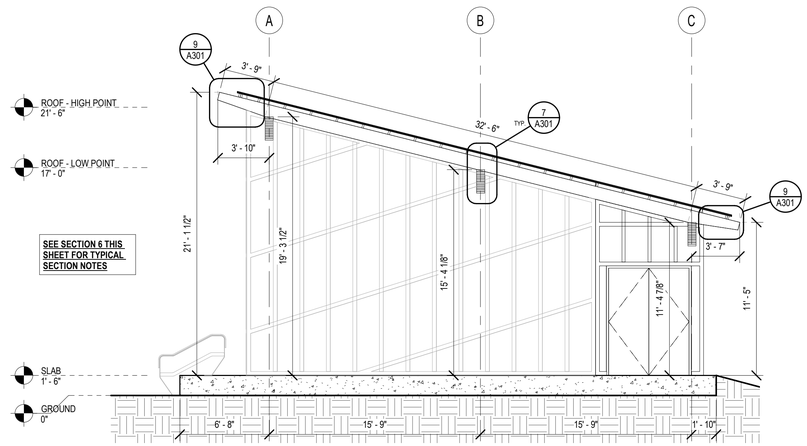
NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

1

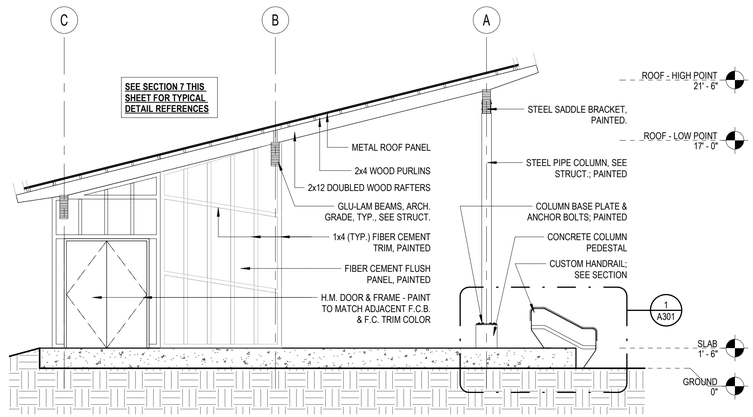
A100
ARCHITECTURAL SITE PLAN



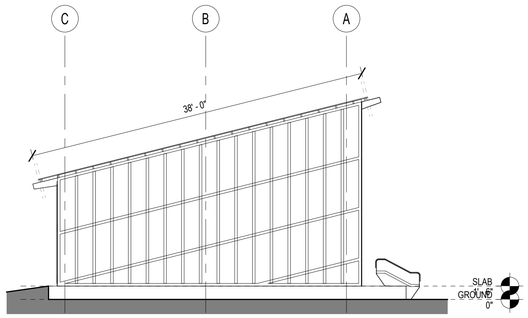
12 DETAIL REFERENCE KEYPLAN
1/8" = 1'-0"



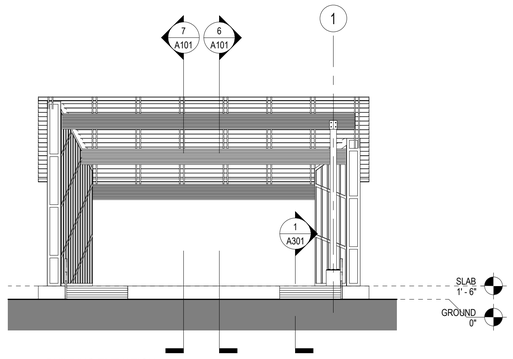
7 BUILDING SECTION
3/16" = 1'-0"



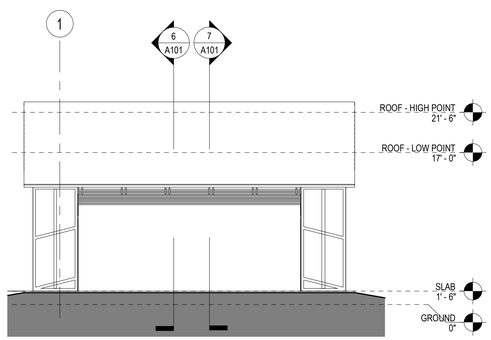
6 BUILDING SECTION
3/16" = 1'-0"



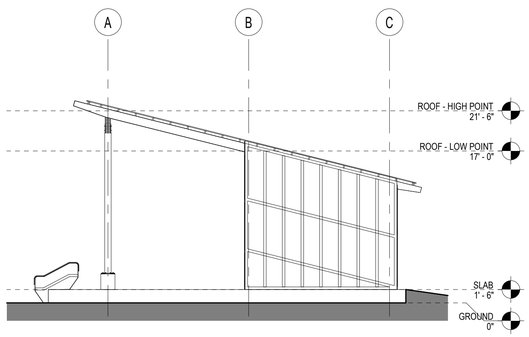
4 BUILDING ELEVATION
1/8" = 1'-0"



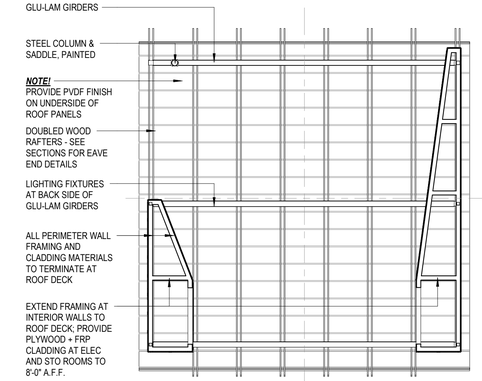
5 BUILDING ELEVATION
1/8" = 1'-0"



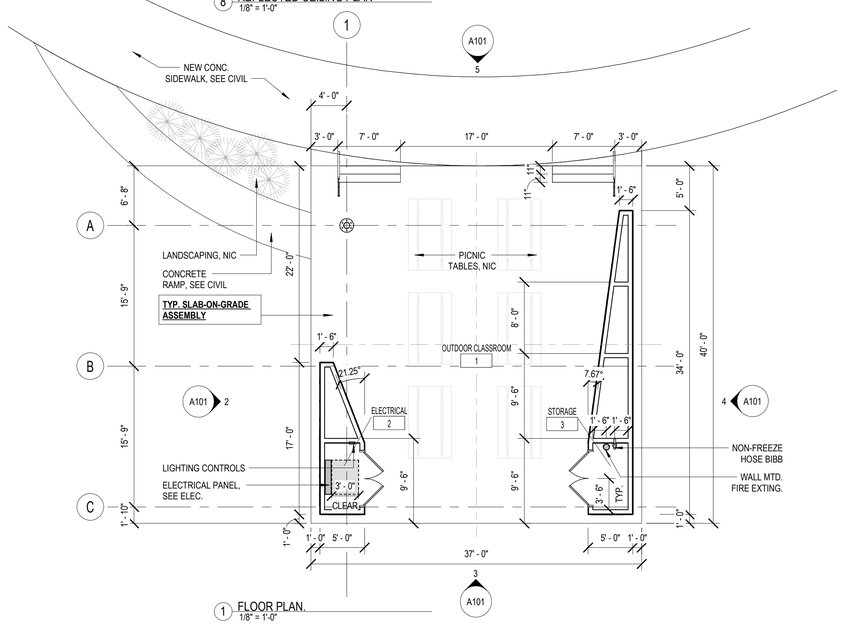
3 BUILDING ELEVATION
1/8" = 1'-0"



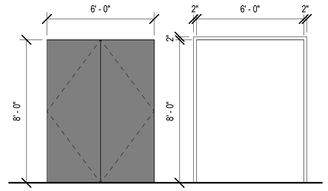
2 BUILDING ELEVATION
1/8" = 1'-0"



8 REFLECTED CEILING PLAN
1/8" = 1'-0"



1 FLOOR PLAN.
1/8" = 1'-0"



ELEC. RM. FIRE EXTINGUISHER

AS MANUF. BY NYSTROM:

- CO_2 CLASS B,C, UL LABELED
- ALUMINUM TANK w/PRESSURE GAUGE, 5 LB., BAKED POLYESTER POWDER COATING
- TEMPERATURE RANGE: -40ºF - 120ºF
- CHROME PLATED STEEL MOUNTING BRACKET
- INSTALL INSIDE ELECTRICAL ROOM AS SHOWN.

WALL MOUNTED WRITABLE GLASSBOARD

- PROVIDE GLASS AS MANUF. BY CLARUS - https://www.clarus.com/float-depth/
- 1/4" TEMP SAFETY GLASS - PROVIDE MAGNETIC FINISH
- NON STAIN WRITING SURFACE
- EASED CORNERS
- COLOR TO BE CHOSEN BY ARCHITECT FROM MANUF. STANDARD RANGE
- SIZE 48" X 96" - COORD. EXACT LOCATION WITH ARCHITECT IN FIELD
- PROVIDE MANUF. "DEPTH" MOUNTING STYLE W/ STAINLESS STEEL STANDOFF HARDWARE AND ANCHORS

ELEC. RM. & STO. RM. DOOR HARDWARE

HINGES (4):

- FIVE KNUCKLE BALL BEARING STANDARD WEIGHT FULL MORTISE BUTT HINGE
- 4-1/2"x4-1/2"
- NON REMOVABLE PIN
- FINISH: 626 SATIN CHROME

LOCKSET:

- LEVER: "DANE" TYPE
- CYLINDER: 6-PIN CONVENTIONAL "C" KEYWAY
- STANDARD KEYING - COORD. w/OWNER REQ.
- LATCH: 1/2" BOLT PROJECTION
- STRIKE: ANSI STRIKE 4-7/8"
- 2-3/4" BACKSET
- TRIM: 3-5/8" DIA. ROSE
- FINISH: 626 SATIN CHROME
- CONFORM TO ANSI/BHMA A156.2, SERIES 4000, GRADE 2

CLOSER:

- DOOR CLOSER: DEAD STOP ARM, PARALLEL ARM MOUNT
- SINGLE PIECE CAST ALUM. BODY
- 1-1/4" STEEL PISTON
- MFR. STANDARD PLASTIC COVER
- CONFORM TO ANSI/BHMA A156.4, GRADE 1

DOOR SEAL:

- 1x72" + 2x96" SILICONE SELF-ADHERING GASKETING SEAL

ASSEMBLIES

GENERAL ASSEMBLY NOTES:
1. SEE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF EA. ASSEMBLY ITEM, TYP.
2. COORD. FRAMING W/ STRUCT. DWGS.
3. COORD. SHEATHING W/ STRUCT. DWGS. TAPE ALL JOINTS & SEAL ALL PENETRATIONS.
4. COORD. MASONRY REINFORCING W/ STRUCT. DWGS.
5. SEE FINISH SCHED. FOR INTERIOR FINISH MATERIALS

ROOF ASSEMBLIES:

TYP. METAL ROOF PANEL ASSEMBLY:
- SNAP-TOGETHER STANDING SEAM ROOF PANEL DIRECT ATTACHED TO WOOD PURLINS

WALL ASSEMBLIES:

TYP. FIBER CEMENT BOARD ON WOOD STUD FRAMING
- FIBER CEMENT BOARD CLADDING w/FIBER CEMENT RUNNING TRIM
- WEATHER BARRIER
- 1/2" PLYWOOD SHEATHING
- 2x6 WOOD STUD FRAMING

AT ELECTRICAL AND STORAGE ROOMS:
- 1/2" PLYWOOD SHEATHING
- F.R.P. PANELING

FOUNDATION ASSEMBLIES:

TYP. SLAB-ON-GRADE ASSEMBLY
- CONCRETE FOUNDATION SYSTEM (SEE STRUCT.)
- UNDER SLAB VAPOR BARRIER
- GRAVEL FILL (SEE STRUCT. & CONFIRM W/ GEO-TECH.)
- COMPACTED SUBGRADE

WBA ARCHITECTURE

GS# 610-012 MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS

Riverside Park Circle
Jackson, MS 39202

REGISTERED ARCHITECT JOHN M. WILLIAMS 4812 STATE OF MISSISSIPPI

09 NOVEMBER 2021

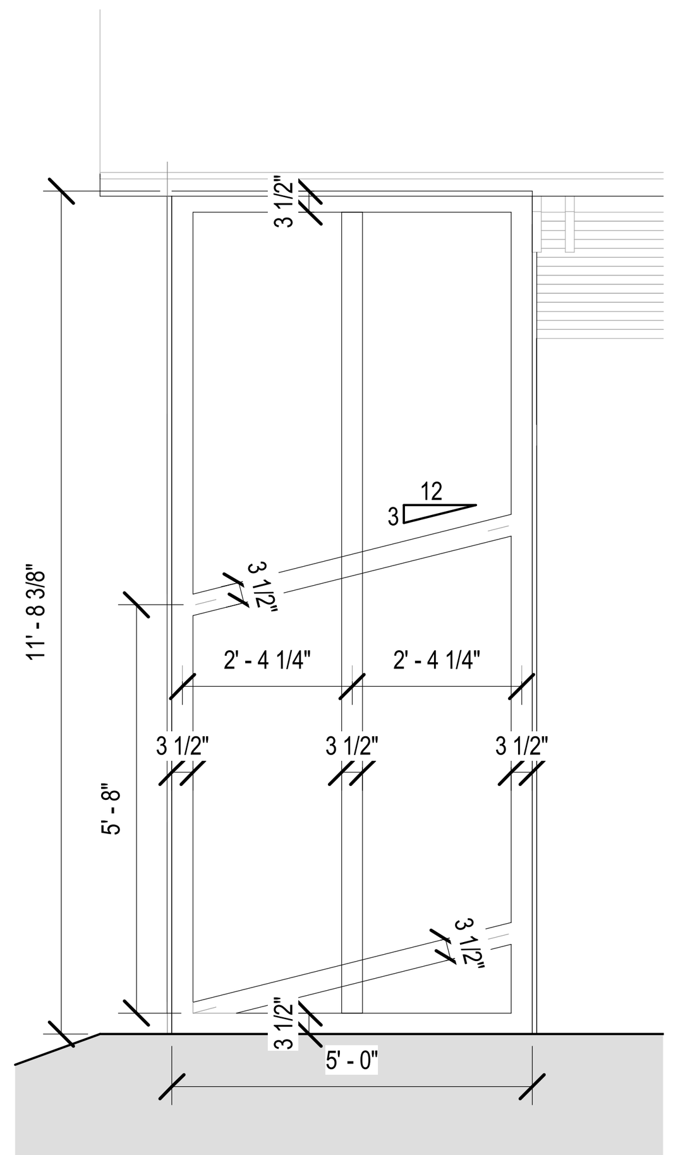
CONSTRUCTION DOCUMENTS

WBA # 0619

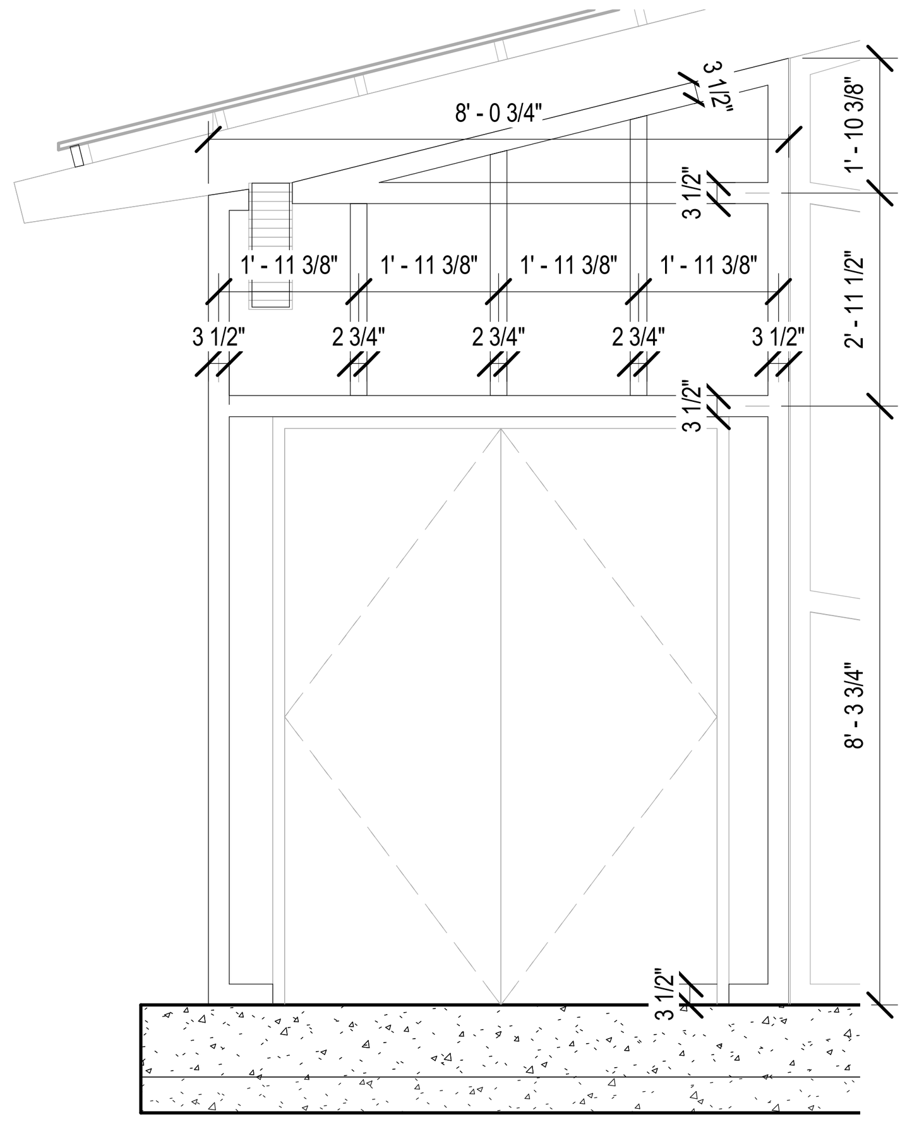
REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

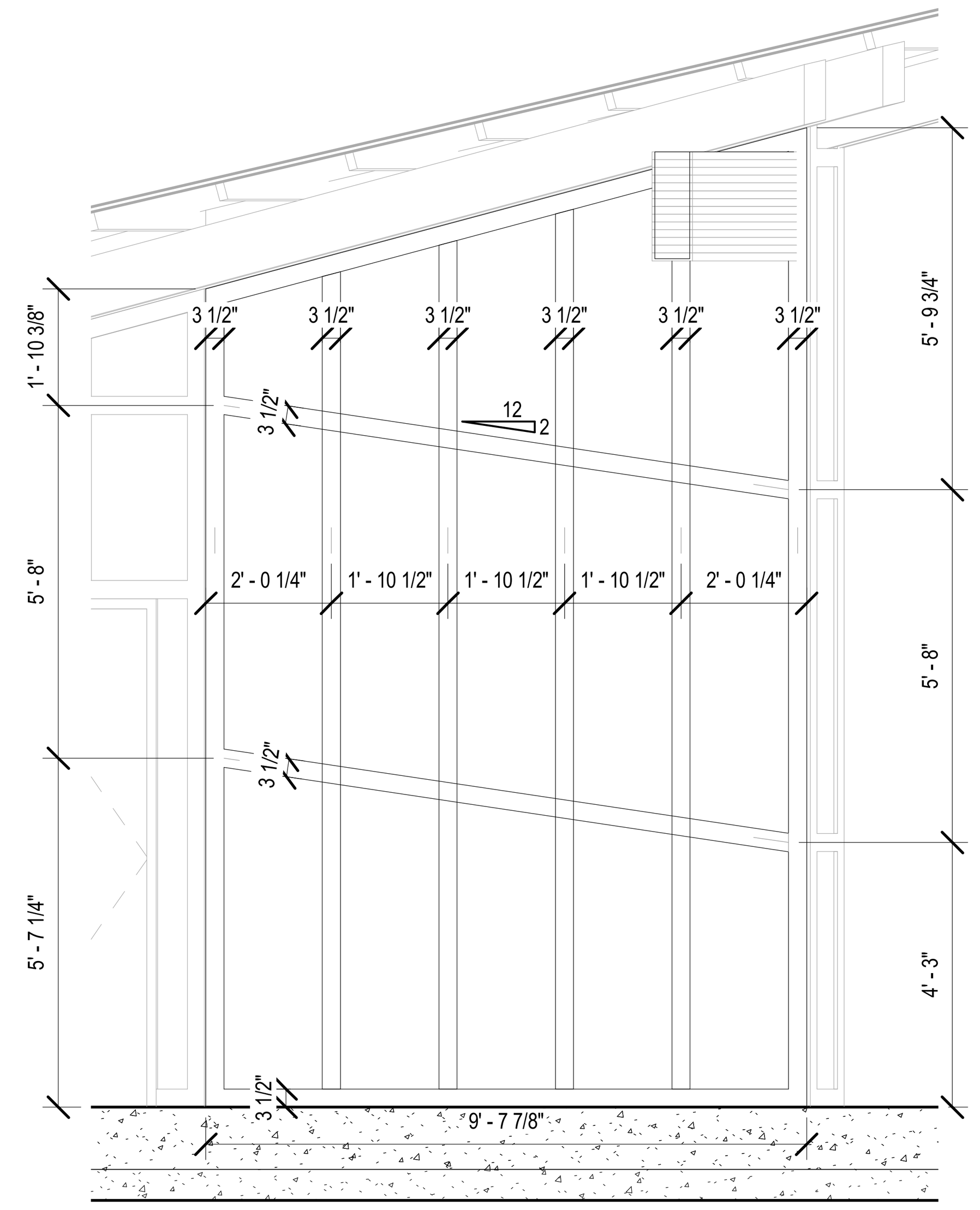
1
A101
PAVILION



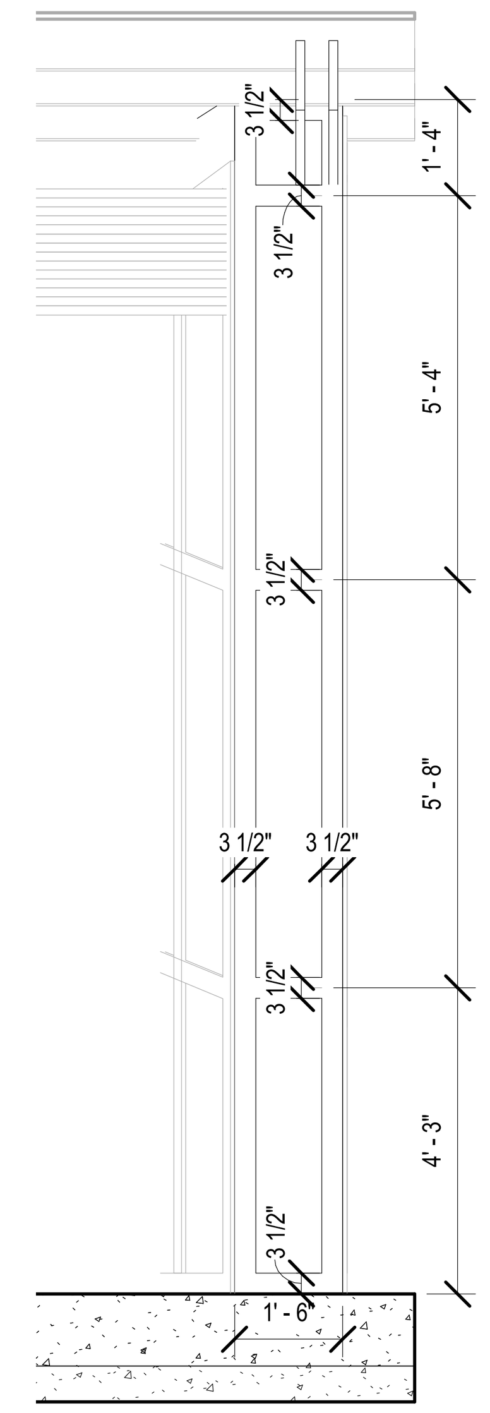
8 ENLARGED ELEVATION
3/8" = 1'-0"



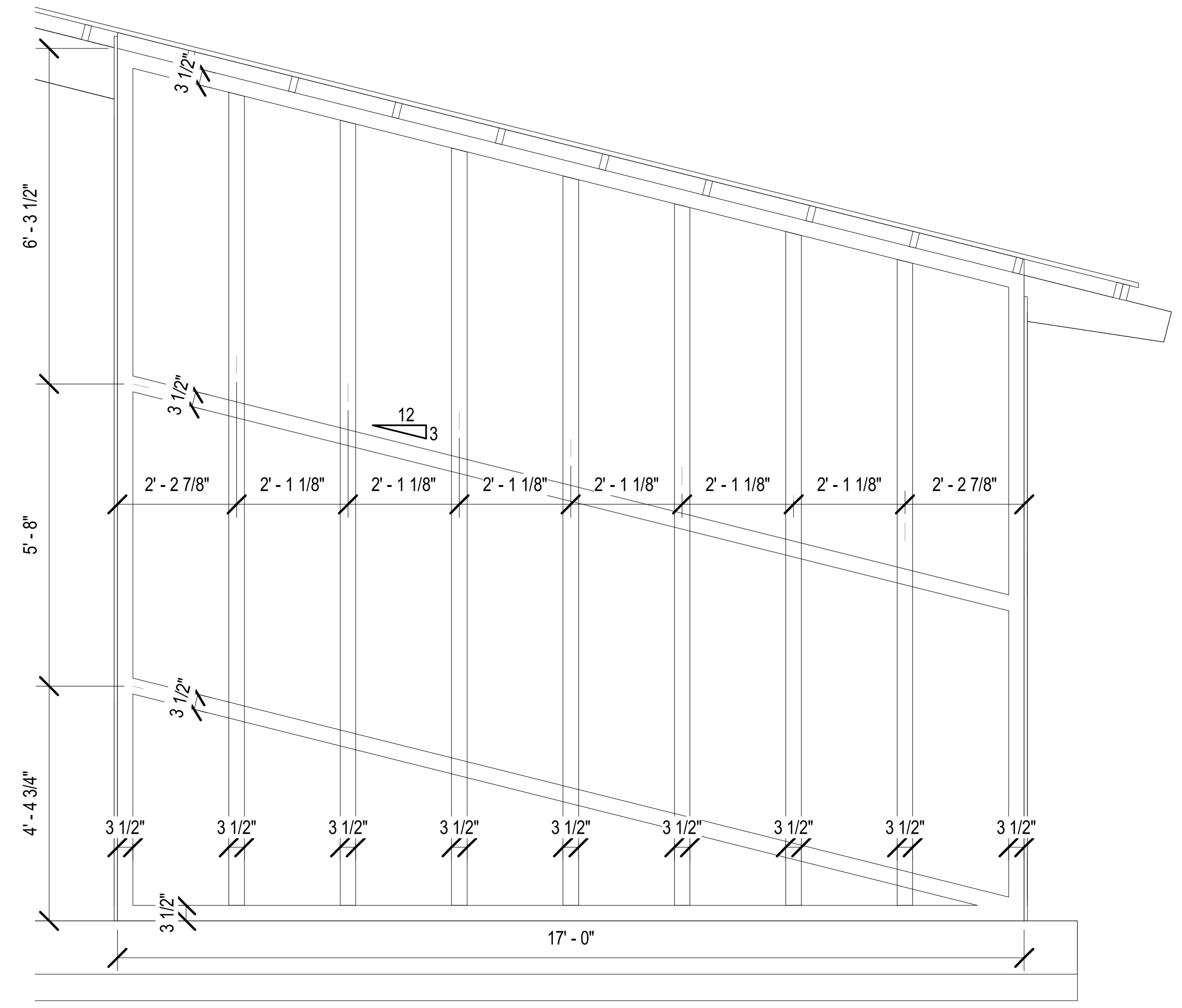
7 ENLARGED ELEVATION
3/8" = 1'-0"



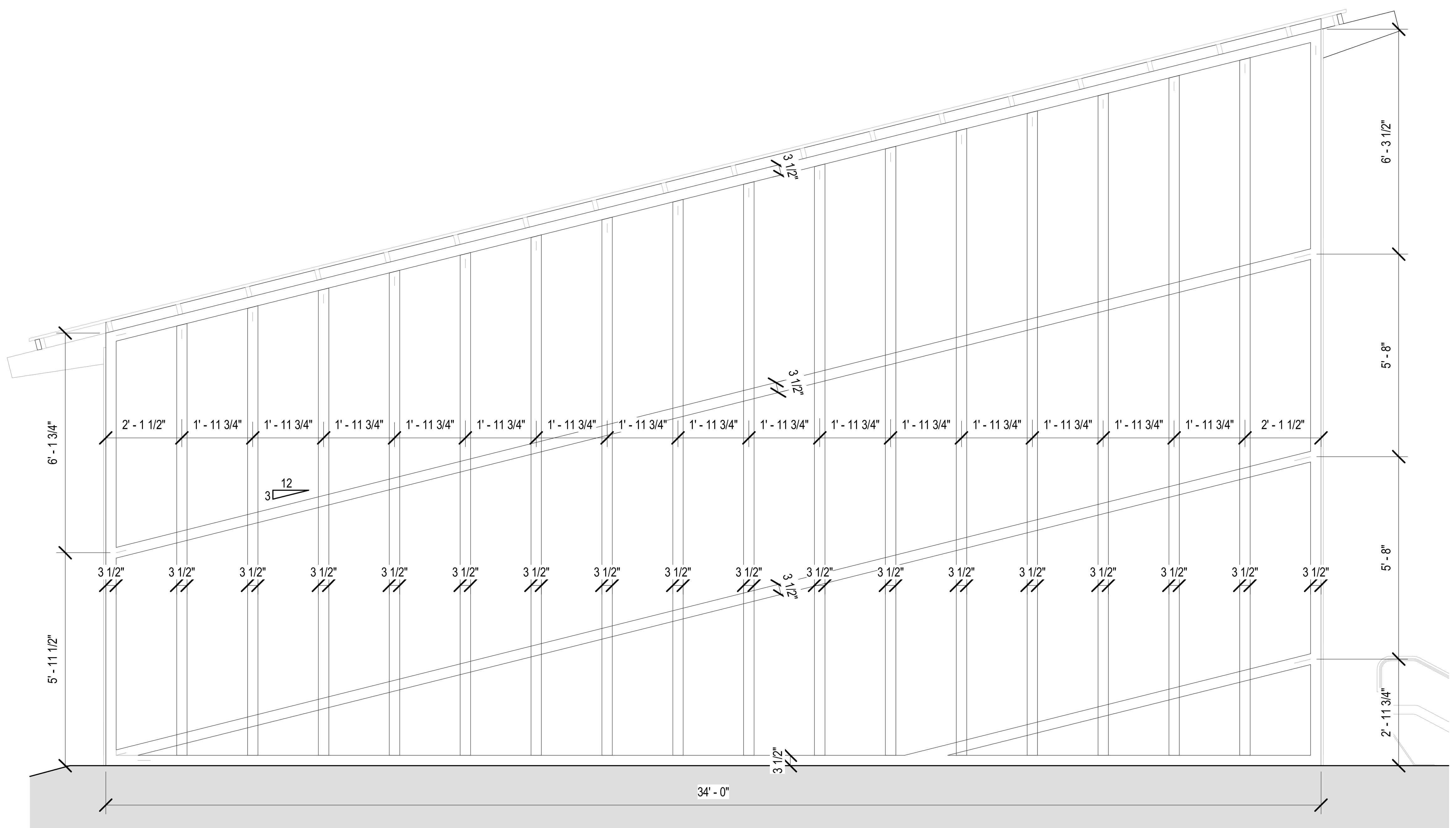
6 ENLARGED ELEVATION
3/8" = 1'-0"



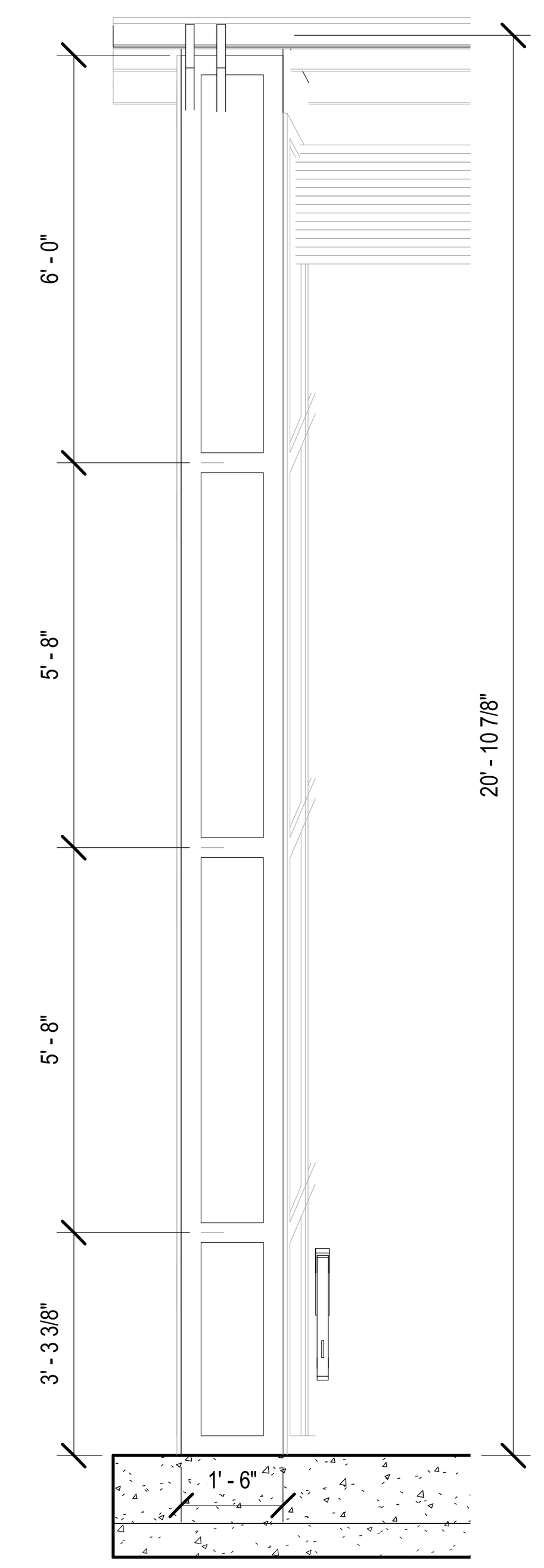
5 ENLARGED ELEVATION
3/8" = 1'-0"



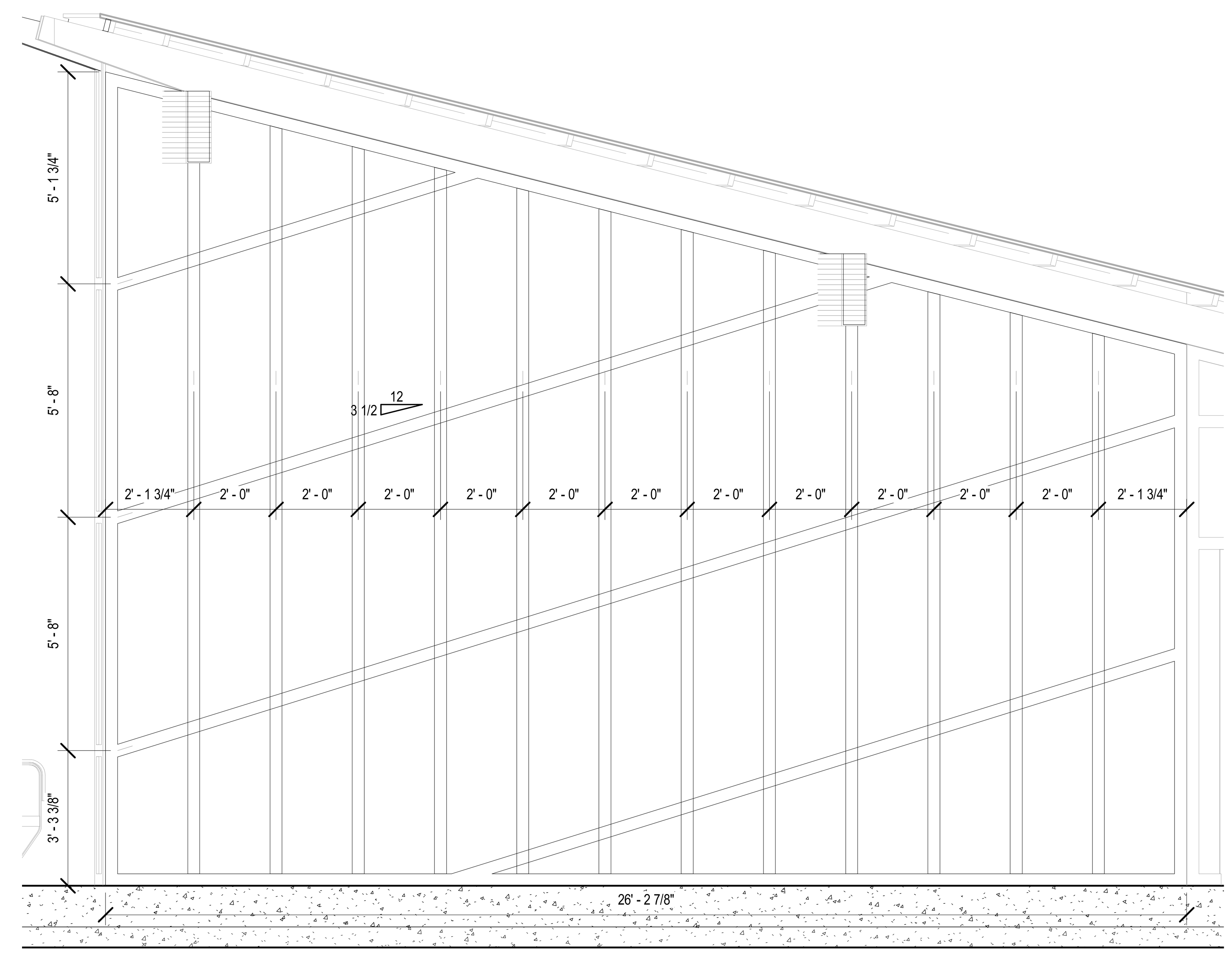
4 ENLARGED ELEVATION
3/8" = 1'-0"



3 ENLARGED ELEVATION
3/8" = 1'-0"



2 ENLARGED ELEVATION
3/8" = 1'-0"



1 ENLARGED ELEVATION
3/8" = 1'-0"

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

REGISTERED ARCHITECT
JOHN M. ALLIN III
4812
STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

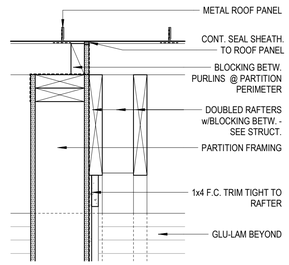
WBA # 0619

REVISIONS

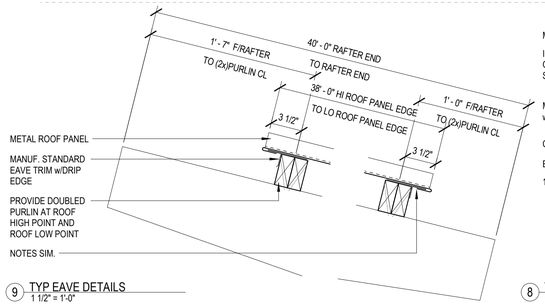
NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

1

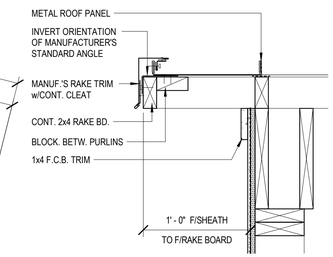
A201
ENLARGED ELEVATIONS



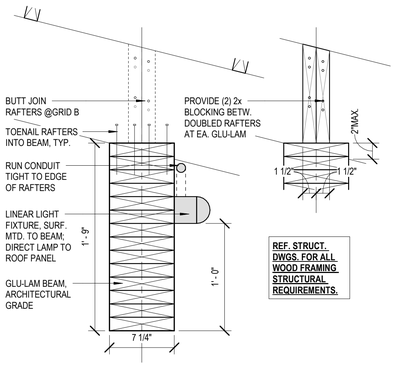
10 TYP INTER. TRIM DETAIL
1 1/2" = 1'-0"



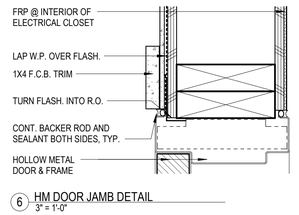
9 TYP EAVE DETAILS
1 1/2" = 1'-0"



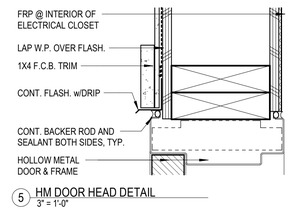
8 TYP RAKE DETAIL
1 1/2" = 1'-0"



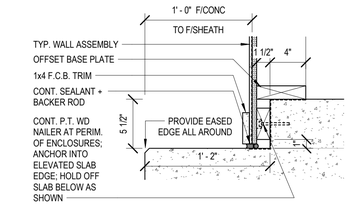
7 TYP SECTION AT GLULAM + RAFTER
1 1/2" = 1'-0"



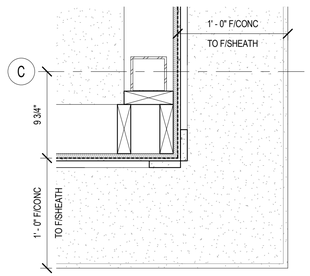
6 HM DOOR JAMB DETAIL
3" = 1'-0"



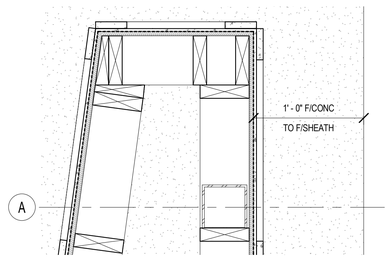
5 HM DOOR HEAD DETAIL
3" = 1'-0"



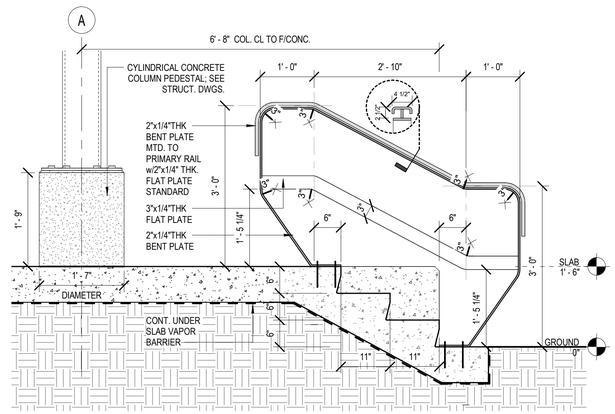
4 TYP WALL BASE DETAIL
1 1/2" = 1'-0"



3 PLAN DETAIL
1 1/2" = 1'-0"



2 PLAN DETAIL
1 1/2" = 1'-0"



1 SECTION AT CONC. STEPS
3/4" = 1'-0"

ASSEMBLIES

GENERAL ASSEMBLY NOTES:
1. SEE SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS OF EA. ASSEMBLY ITEM, TYP.
2. COORD. FRAMING W/ STRUCT. DWGS.
3. COORD. SHEATHING W/ STRUCT. DWGS. TAPE ALL JOINTS & SEAL ALL PENETRATIONS.
4. COORD. MASONRY REINFORCING W/ STRUCT. DWGS.
5. SEE FINISH SCHED. FOR INTERIOR FINISH MATERIALS

ROOF ASSEMBLIES:

TYP. METAL ROOF PANEL ASSEMBLY:
- SNAP-TOGETHER STANDING SEAM ROOF PANEL DIRECT ATTACHED TO WOOD PURLINS

WALL ASSEMBLIES:

TYP. FIBER CEMENT BOARD ON WOOD STUD FRAMING
- FIBER CEMENT BOARD CLADDING w/FIBER CEMENT RUNNING TRIM
- WEATHER BARRIER
- 1/2" PLYWOOD SHEATHING
- 2x6 WOOD STUD FRAMING

AT ELECTRICAL AND STORAGE ROOMS:
- 1/2" PLYWOOD SHEATHING
- F.R.P. PANELING

FOUNDATION ASSEMBLIES:

TYP. SLAB-ON-GRADE ASSEMBLY
- CONCRETE FOUNDATION SYSTEM (SEE STRUCT.)
- UNDER SLAB VAPOR BARRIER
- GRAVEL FILL (SEE STRUCT. & CONFIRM W/ GEO-TECH.)
- COMPACTED SUBGRADE

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

REGISTERED ARCHITECT JOHN M. CALVERT 4812 STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

1

A301
DETAILS

STRUCTURAL NOTES

GENERAL

1. **CODES:** ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2015 EDITION AND STANDARDS REFERENCED THEREIN.
2. **SAFETY:** THE CONTRACTOR IS RESPONSIBLE FOR JOB SAFETY.
3. **COORDINATION:** THE CONTRACTOR SHALL COORDINATE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL WORKS DOCUMENTS WITH THE STRUCTURAL CONTRACT DOCUMENTS. NOTIFICATION SHALL BE MADE, IN WRITING, TO THE ARCHITECT OF ANY CONFLICT, DISCREPANCIES, OMISSIONS, AND/OR ANY VARIATIONS NEEDED IN ORDER TO COMPLY WITH CODES.
4. **SITE CONDITION VERIFICATION:** THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO STARTING WORK. THE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY DISCREPANCIES IN EXISTING SITE CONDITIONS, DIMENSIONS, OR ELEVATIONS TO THOSE SHOWN IN THE STRUCTURAL CONSTRUCTION DOCUMENTS.
5. **GENERAL DETAILS:** CONSTRUCTION DETAILS NOT FULLY SHOWN OR NOTED SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.
6. **DIMENSIONS:** THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL CONSTRUCTION DOCUMENTS, SEE THE ARCHITECTURAL DRAWINGS.
7. **MEANS OF CONSTRUCTION:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
8. **MATERIALS AND TESTING:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTATION OF ALL MATERIAL PROPERTIES, GRADES, STRENGTHS, ETC. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL TESTING REQUIRED TO VERIFY MATERIAL STRENGTHS. ALL TEST DATA SHALL BE DOCUMENTED AND SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
9. **BRACING:** THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, AND ERECTION OF SAFE AND ADEQUATE BRACING, SHORING, TEMPORARY SUPPORTS, ETC. REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL INTERMEDIATE STAGES OF CONSTRUCTION UNTIL FINAL SUPPORT IS SECURELY ANCHORED AND/OR CURED.
10. **SHOP DRAWINGS:** THE CONTRACTOR SHALL SUPPLY THE STRUCTURAL ENGINEER WITH CHECKED SHOP DRAWINGS BEARING THE CONTRACTOR'S STAMP OF APPROVAL AND SIGNATURE. THE REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS. THIS REVIEW DOES NOT GUARANTEE IN ANY WAY THAT THE SHOP DRAWINGS ARE CORRECT AND/OR COMPLETE, NOR DOES IT INFER THAT THEY SUPERCEDE THE STRUCTURAL CONSTRUCTION DOCUMENTS.
11. **INSPECTIONS:** ANY INSPECTIONS SPECIAL OR OTHERWISE, WHICH ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE, OR SUBSTITUTE INSPECTION UNLESS SPECIFICALLY CONTRACTED FOR.
12. **ALTERATIONS:** IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE UNLESS PRIOR APPROVAL IS OBTAINED BY THE STRUCTURAL ENGINEER IN WRITING.

FOUNDATIONS

1. **GEOTECHNICAL REPORT:** THE FOUNDATION AND SLAB-ON-GRADE DESIGN WAS BASED ON RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT PROVIDED BY BURNS COOLEY DENNIS, INC. (REPORT NO. 210096). BASED ON THE GEOTECHNICAL REPORT, AN ALLOWABLE NET BEARING CAPACITY OF 2,000 POUNDS PER SQUARE FOOT WAS USED FOR THE FOUNDATION DESIGN. SEE THE PROJECT SPECIFICATIONS FOR A COPY OF THE GEOTECHNICAL REPORT. THE CONTRACTOR SHALL FOLLOW ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
2. **SELECT FILL:** SEE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SELECT FILL.
3. **QUESTIONABLE SOILS:** SHOULD THE CONTRACTOR ENCOUNTER UNUSUAL SOILS OR QUESTIONABLE SUBSURFACE CONDITIONS, THE STRUCTURAL ENGINEER SHALL BE CONTACTED IMMEDIATELY.

STRUCTURAL DESIGN DATA

1. **LIVE LOADS:**
   ROOF LIVE LOAD = 20 PSF
2. **SUPERIMPOSED DEAD LOADS:**
   ROOF DEAD LOAD = 10 PSF
3. **SNOW LOADS:**
   GROUND SNOW LOAD = 5 PSF
   SNOW IMPORTANCE FACTOR = 1.0
4. **SEISMIC DESIGN DATA:**

SEISMIC DESIGN DATA
- RISK CATEGORY = II - IMPORTANCE FACTOR = 1.0 - SITE CLASS = D - MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS: S_S = 0.157 S_1 = 0.087 - DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS: S_{DS}= 0.168 S_{D1}= 0.139 - SEISMIC DESIGN CATEGORY = C - BASIC SEISMIC-FORCE-RESISTING SYSTEMS: LIGHT-FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE (R=6½) - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

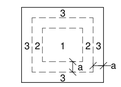
5. **WIND DESIGN DATA:**

WIND DESIGN DATA
1. BASIC WIND SPEED = 115 MPH (ULTIMATE) 90 (ASD) 2. RISK CATEGORY = II 3. WIND EXPOSURE CATEGORY = B 4. INTERNAL PRESSURE COEFFICIENT = 0.18 +/- 5. ENCLOSED STRUCTURE

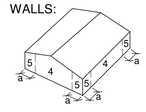
COMPONENTS AND CLADDING LOADS — a = 4.0'

	AREA (SF)	PRESSURE (PSF) (ASD) MAXIMUM	MINIMUM
ROOF ZONE 1	0-10	9.60	-19.17
	100	9.60	-14.97
	500	9.60	-12.03
ROOF ZONE 1'	0-10	9.60	-11.01
	100	9.60	-11.01
	1000	9.60	-9.60
ROOF ZONE 2	0-10	11.01	-25.29
	100	9.60	-19.89
	500	9.60	-16.11
ROOF ZONE 3	0-10	11.01	-34.47
	100	9.60	-23.66
	500	9.60	-16.11
WALL ZONE 4	0-10	11.01	-11.93
	250	9.60	-9.67
	500	9.60	-9.60
WALL ZONE 5	0-10	11.01	-14.68
	250	9.60	-10.15
	500	9.60	-9.60

ROOF:



WALLS:



CONCRETE & REINFORCING STEEL

1. **STRENGTH:** CONCRETE SHALL HAVE A NORMAL WEIGHT OF 145 PCF AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF:
   FOUNDATIONS & SLAB-ON-GRADE 4,000 PSI
2. **SLUMP:** THE CONCRETE SLUMP SHALL BE 4" AT THE POINT OF PLACEMENT. THE USE OF WATER-REDUCING ADMIXTURES MAY BE USED IF AN INCREASED SLUMP IS DESIRED FOR WORKABILITY. THE SLUMP SHALL NOT EXCEED 5" WITH THE USE OF NORMAL WATER-REDUCERS & SHALL NOT EXCEED 7" WITH THE USE OF MID-RANGE OR HIGH-RANGE WATER-REDUCERS.
3. **DOCUMENTATION:** THE CONCRETE MIX DESIGN, STRENGTH, AND ALL SPECIFIED TESTING SHALL BE FULLY DOCUMENTED AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL.
4. **CURING:** CONCRETE SLABS SHALL BE CURED BY FULLY COVERING WITH PLASTIC SHEETING FOR 7 DAYS. THE PLASTIC SHEETING SEAMS SHALL BE TAPED.
5. **REINFORCEMENT PLACEMENT:** ALL REINFORCEMENT SHALL BE BENT COLD. REINFORCEMENT SHALL NOT BE WELDED. REINFORCEMENT SHALL NOT BE WET SET IN CONCRETE.
6. **INSERTS:** ALL ITEMS TO BE CAST IN CONCRETE SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC. SHALL BE SECURELY POSITIONED IN THE FORMS BEFORE PLACING CONCRETE.
7. **SECURING REINFORCEMENT:** ALL REINFORCING STEEL & EMBEDMENTS SHALL BE SECURELY TIED AND SUFFICIENTLY SUPPORTED TO MAINTAIN THE POSITION WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES.
8. **WEATHER:** WEATHER CONDITIONS SHALL NOT BE ACCEPTABLE AS A VALID REASON FOR INCORRECT OR OTHERWISE POOR QUALITY OF CONCRETE OR CONCRETE SURFACES.
9. **REINFORCEMENT COVER:** MINIMUM REINFORCEMENT COVER SHALL BE AS SHOWN IN THIS TABLE:

CONCRETE REINFORCEMENT COVER		
EXPOSURE CONDITION	MINIMUM COVER	TOLERANCE (-)
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"	3/8"
EXPOSED TO EARTH OR WEATHER:		
No. 5 AND SMALLER BARS	1½"	1/4"
No. 6 AND LARGER BARS	2"	1/4"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:		
STRUCTURAL SLABS & WALLS	3/4"	1/8"
BEAMS AND COLUMNS	1½"	1/4"
SLABS ON GRADE:	2"	1/4"

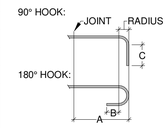
10. **SPLICING REINFORCEMENT:** CONTINUOUS REINFORCEMENT SHALL BE PROVIDED WHEREVER POSSIBLE. REINFORCEMENT SHALL BE LAP SPLICED WHEN REQUIRED AS FOLLOWS:

REINFORCEMENT LAP SLICE LENGTHS	
BAR SIZE	LAP SPLICE LENGTH
#3	22"
#4	29"
#5	36"
#6	43"
#7	63"
#8	72"
#9	81"

11. **REINFORCEMENT STANDARD HOOKS:** REINFORCEMENT SHALL BE HOOKED AS SHOWN IN THE TABLE BELOW WHEN SPECIFIED IN THE DRAWINGS:

REINFORCEMENT STANDARD HOOKS				
BAR SIZE	RADIUS	A	B	C
#3	1.5"	8.5"	2.5"	4.5"
#4	2"	11"	2.5"	6"
#5	2.5"	14"	2.5"	7.5"
#6	3"	16.5"	3"	9"
#7	3.5"	19.5"	3.5"	10.5"
#8	4"	22"	4"	12"
#9	5.625"	25"	4.5"	13.5"

90° HOOK: 180° HOOK:



STRUCTURAL STEEL

1. **CODE:** STEEL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE TOLERANCES, QUALITY, FABRICATION, AND ERECTION AS SET FORTH IN CHAPTER 22 OF THE INTERNATIONAL BUILDING CODE, 2018 AND THE LATEST AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION.
2. **MATERIAL:** STRUCTURAL STEEL PLATES, ANGLES, AND CHANNELS SHALL CONFORM TO ASTM A36. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE B OR C. STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE B.
3. **SHOP DRAWINGS:** THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING ALL MEMBERS, SIZES, LOCATIONS, AND CONNECTIONS TO THE ARCHITECT/STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
4. **FOUNDATION ANCHOR RODS:** ALL FOUNDATION ANCHOR RODS SHALL BE ASTM F1554, GRADE 36, AND SHALL BE WELDABLE. ALL ANCHOR RODS SHALL HAVE TWO HEAVY HEX HEAD NUTS OR HAVE A SINGLE HEAVY HEX NUT TACK WELDED TO THE SHAFT ON THE END THAT IS ANCHORED IN CONCRETE. ALTERNATIVELY, THE ANCHOR RODS MAY HAVE A HEAVY HEX HEAD FACTORY FORGED TO THE SHAFT.
5. **FOUNDATION ANCHOR ROD HOLES:** ANCHOR ROD HOLES IN BASE PLATES MAY BE OF THE MAXIMUM SIZE AS SPECIFIED IN TABLE 14-2 OF THE AISC MANUAL. PLATE WASHERS OF THE SPECIFIED MINIMUM SIZE SHALL BE USED WITH OVERSIZED HOLES.
6. **GROUTING:** ALL BASE PLATES SHALL BE FULLY GROUTED WITH A NON-SHRINK GROUT THAT MEETS OF EXCEEDS ASTM C 1107, GRADES B AND C.
7. **WELDING:** ALL WELDING SHALL BE IN ACCORDANCE WITH THE AISC AND EXECUTED BY WELDERS QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.1. ALL WELDS SHALL BE MADE WITH E70XX ELECTRODES. ALL WELDED JOINTS SHALL BE PREQUALIFIED BY AISC.

TIMBER

1. **GRADE:** STRUCTURAL TIMBER SHALL BE NO. 2 GRADE SOUTHERN YELLOW PINE WITH A MAXIMUM MOISTURE CONTENT OF 19% AT THE TIME OF PERMANENT INCORPORATION TO THE STRUCTURE.
2. **SHEATHING:** WOOD STRUCTURAL PANELS NOT LESS THAN 4 FEET BY 8 FEET, EXCEPT AT BOUNDARIES, SHALL BE USED FOR WALL SHEATHING. WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS FOR THEIR TYPE IN DOC PS 1 OR PS 2. ALL SHEATHING SHALL BE PLYWOOD WITH A THICKNESS OF 1/2" AND SHALL BE FASTENED WITH 8d COMMON NAILS AT PANEL EDGES AT 6" O.C. AND IN THE FIELD AT 12" O.C.
3. **WALL STUDS:** WALL STUDS SHALL BE 2x6 AT 16" O.C.
4. **SILL PLATES:** SILL PLATES SHALL BE ATTACHED TO THE FOUNDATION AS SPECIFIED IN THE DRAWINGS. SILL PLATES SHALL BE PRESSURE TREATED.
5. **GLULAM BEAMS:** SEE THE PROJECT SPECIFICATIONS FOR GLULAM BEAMS.

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

JASON M. MCQUEEN
LICENSED PROFESSIONAL ENGINEER
18476
STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE

McQUEEN STRUCTURAL ENGINEERING
965 Highway 51, Suite 3 - Madison, MS 39110
(601) 898-1295

S1.0
STRUCTURAL NOTES

STRUCTURAL QUALITY ASSURANCE REQUIREMENTS

GENERAL

1. **SPECIAL INSPECTIONS:** SPECIAL INSPECTIONS SHALL BE COMPLETED PER CHAPTER 17 OF IBC 2015. THE CONTRACTOR WILL EMPLOY THE SERVICES OF A SPECIAL INSPECTOR TO PROVIDE INSPECTIONS FOR THE ITEMS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS. THE SPECIAL INSPECTOR SHALL BE APPROVED BY THE ARCHITECT.

2. **SPECIAL INSPECTOR:** THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO INSPECTION OF ITEMS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.

3. **SCOPE:** THE SPECIAL INSPECTION REQUIREMENTS NOTED IN THE STRUCTURAL DOCUMENTS ARE FOR BUILDING COMPONENTS THAT ARE WITHIN THE SCOPE OF THE STRUCTURAL ENGINEER. REFER TO OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS FOR OTHER BUILDING COMPONENTS.

CONTRACTOR RESPONSIBILITY

1. **STATEMENT OF RESPONSIBILITY:** THE CONTRACTOR SHALL SUBMIT A STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON ANY SYSTEM LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS. THE STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:

   a. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS

   b. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL

   c. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS

   d. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON EXERCISING SUCH CONTROL AND THEIR POSITION IN THE ORGANIZATION

SPECIAL INSPECTOR RESPONSIBILITY

1. **RECORD KEEPING:** SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, OWNER, ARCHITECT, AND CONTRACTOR. REPORTS SHALL INDICATE WHETHER OR NOT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.

2. **FINAL REPORT:** A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.

3. **DISCREPANCIES:** DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, OWNER, AND ARCHITECT PRIOR TO THE COMPLETION OF THAT PHASE OF WORK.

STATEMENT OF SPECIAL INSPECTIONS

1. **LATERAL FORCE RESISTING SYSTEM:**

   - SEISMIC SYSTEM: SPECIAL INSPECTION IS NOT REQUIRED

   - WIND SYSTEM: SPECIAL INSPECTION IS NOT REQUIRED

2. **SOILS:**

   CONTRACTOR DUTIES:

   A. PROVIDE THE SPECIAL INSPECTOR A COPY OF THE GEOTECHNICAL REPORT.

   SPECIAL INSPECTOR DUTIES:

   A. PERFORM TESTING AND MONITORING AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND GEOTECHNICAL REPORT AND AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. (PERIODIC INSPECTION)

   B. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL. (PERIODIC INSPECTION)

   C. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS. (PERIODIC INSPECTION)

   D. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL. (CONTINUOUS INSPECTION)

   E. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THE SITE HAS BEEN PREPARED PROPERLY. (PERIODIC INSPECTION)

3. **STRUCTURAL STEEL:**

   CONTRACTOR DUTIES:

   A. SUBMIT THE MANUFACTURER'S CERTIFICATION THAT THE STEEL COMPLIES WITH THE STRUCTURAL CONSTRUCTION

      DOCUMENTS:
      - STRUCTURAL BOLTS, NUTS, AND WASHERS
      - STRUCTURAL STEEL MEMBERS

   B. SUBMIT STRUCTURAL STEEL SHOP DRAWINGS.

   SPECIAL INSPECTOR DUTIES:

   A. PERFORM PERIODIC INSPECTION OF THE STEEL FRAMING TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, SUCH AS BRACING, STIFFENING, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.

   B. PERFORM PERIODIC INSPECTIONS TO VERIFY COMPLIANCE FOR THE FOLLOWING:

      a. MATERIAL VERIFICATION OF STRUCTURAL STEEL, HIGH-STRENGTH BOLTS, NUTS, AND WASHERS.

      b. SINGLE PASS FILLET WELDS ≤ 5/16"

   C. VISUALLY INSPECT ALL FIELD WELDS IN ACCORDANCE WITH AWS D1.1.

   D. VERIFY WELDING PROCEDURES ARE BEING ADHERED TO DURING FIELD WELDING.

4. **CONCRETE:**

   CONTRACTOR DUTIES:

   A. SUBMIT CONCRETE MIX DESIGN.

   B. SUBMIT MANUFACTURER'S CERTIFICATION FOR REINFORCING STEEL.

   C. SUBMIT REINFORCEMENT SHOP DRAWINGS.

   D. SUBMIT A PLAN FOR CURING PROCEDURES.

   SPECIAL INSPECTOR DUTIES:

   A. MATERIAL TESTING:

      a. PERFORM ALL TESTING IN SECTION 03.3000 OF THE PROJECT SPECIFICATIONS

   B. PERFORM PERIODIC INSPECTIONS TO VERIFY COMPLIANCE FOR THE FOLLOWING:

      a. FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED.

      b. CONCRETE REINFORCEMENT FOR LOCATION, SIZE, GRADE, AND SPLICE LENGTH.

      c. LOCATION OF WALL DOWELS AND OTHER EMBEDMENTS.

      d. VERIFY USE OF REQUIRED DESIGN MIX.

      e. VERIFY CURING PROCEDURES, TEMPERATURE, AND TECHNIQUES ARE IN COMPLIANCE WITH THE APPROVED CURING PLAN AND THE SPECIFICATIONS.

5. **POST-INSTALLED MECHANICAL AND EPOXY ANCHORS:**

   CONTRACTOR DUTIES:

   A. SUBMIT THE MANUFACTURER'S PRODUCT DATA:

      a. GENERAL PRODUCT DATA

      b. INSTALLATION INSTRUCTIONS

      c. ICC ES REPORT

   B. ENSURE PERSONNEL INSTALLING THE ANCHORS HAVE BEEN PROPERLY TRAINED TO INSTALL THE ANCHORS PER THE MANUFACTURER'S SPECIFICATIONS.

   SPECIAL INSPECTOR DUTIES:

   A. REVIEW PRODUCT DATA, INSTALLATION INSTRUCTIONS, AND ICC ES REPORT AND VERIFY THE ANCHORS ARE IN COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.

   B. PROVIDE CONTINUOUS INSPECTION FOR THE INSTALLATION OF THE FIRST 5 ANCHORS OF EACH TYPE AND VERIFY COMPLIANCE WITH THE MANUFACTURER'S INSTALLATION SPECIFICATIONS. PROVIDE PERIODIC INSPECTION OF THE REMAINING POST-INSTALLED ANCHORS.

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

JASON M. MCQUEEN
LICENSED PROFESSIONAL ENGINEER
18476
STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

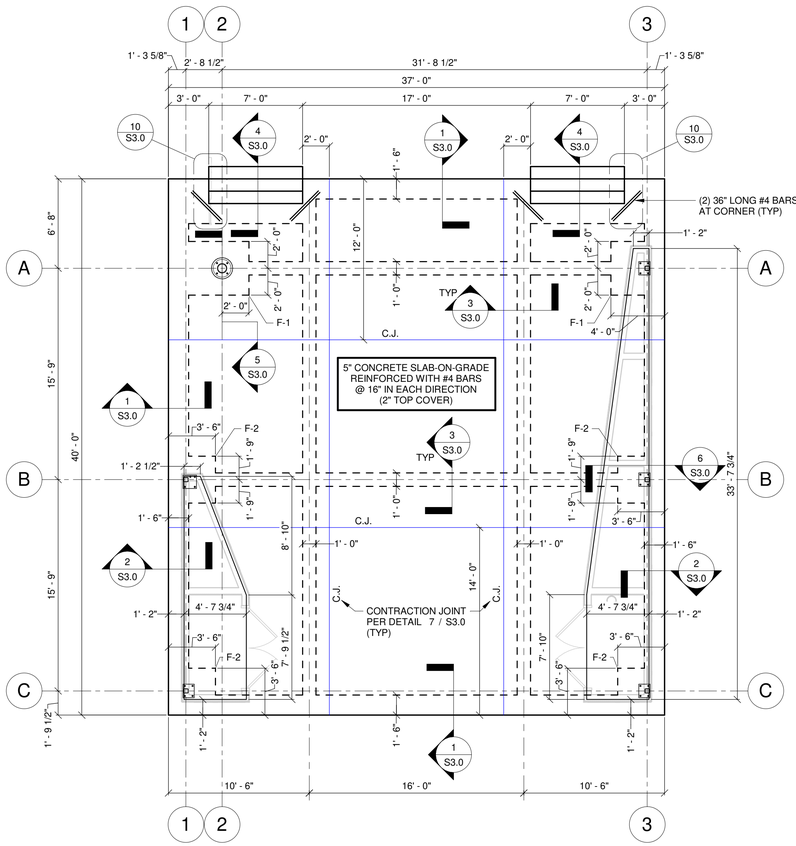
WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE

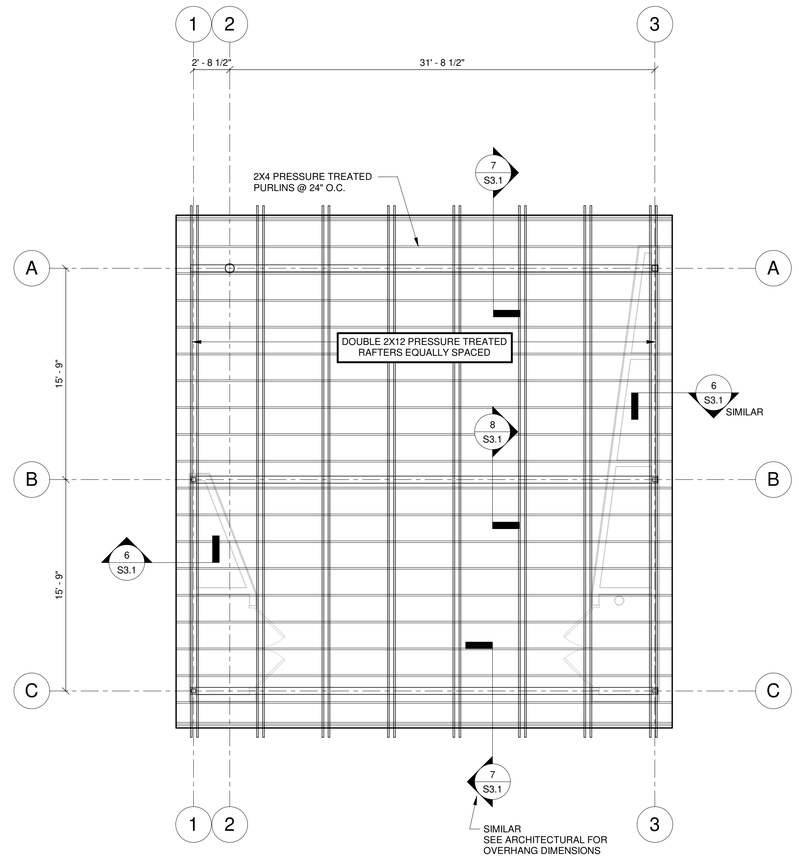
McQUEEN STRUCTURAL ENGINEERING
965 Highway 51, Suite 3 - Madison, MS 39110
(601) 898-1295

S1.1
STRUCTURAL QUALITY ASSURANCE



FOUNDATION PLAN

3/16" = 1'-0"



ROOF FRAMING PLAN

3/16" = 1'-0"

FOOTING SCHEDULE			
FOOTING	THICKNESS	SIZE	REINFORCEMENT
F-1	24"	4'-0" x 4'-0"	(4) #5 EACH WAY (TOP & BOTTOM)
F-2	24"	3'-6" x 3'-6"	(4) #5 EACH WAY (TOP & BOTTOM)

WBA
ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

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JASON M. MCQUEEN
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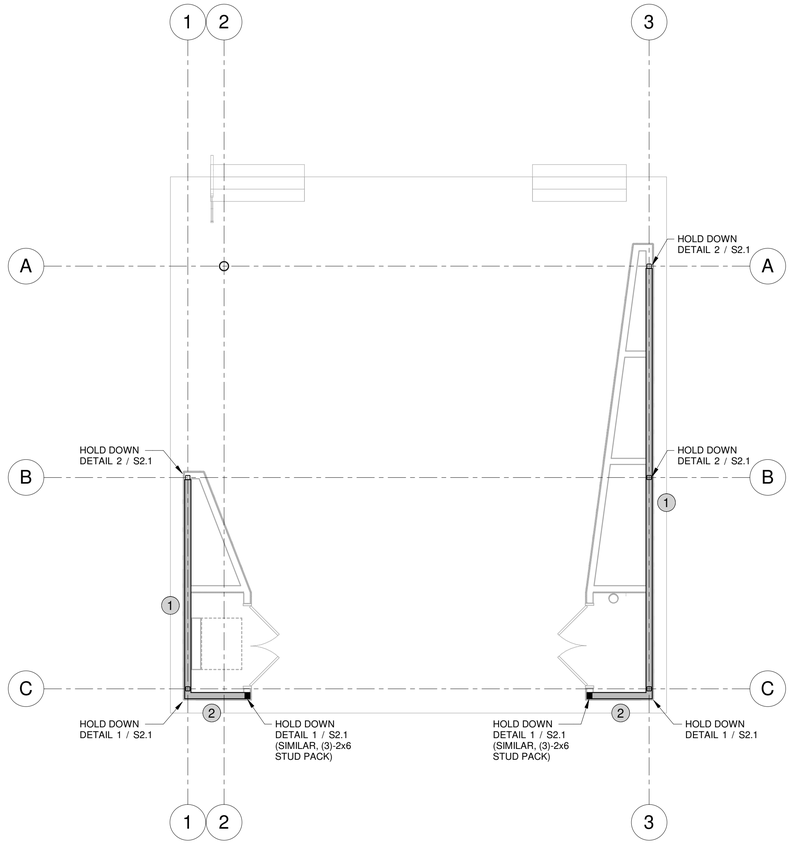
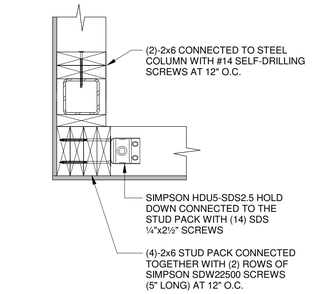
S2.0
FOUNDATION & ROOF FRAMING PLAN



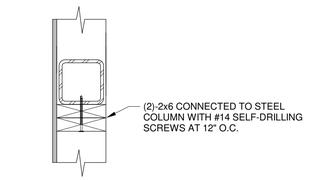
SHEAR WALL PLAN

3/16" = 1'-0"

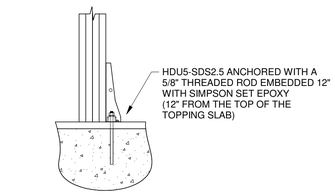
SHEAR WALL SCHEDULE	
1	1/2" PLYWOOD SHEATHING FASTENED TO SUPPORTS WITH 8d NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. IN THE FIELD
2	1/2" PLYWOOD SHEATHING FASTENED TO SUPPORTS WITH 8d NAILS AT 4" O.C. AT PANEL EDGES AND 12" O.C. IN THE FIELD



1 S2.1 SHEAR WALL HOLD WALL 1
1 1/2" = 1'-0"



2 S2.1 SHEAR WALL HOLD WALL 2
1 1/2" = 1'-0"



3 S2.1 HOLD DOWN DETAIL
3/4" = 1'-0"

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

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Jackson, MS 39202

JASON M. MCQUEEN
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18476
STATE OF MISSISSIPPI

09 NOVEMBER 2021

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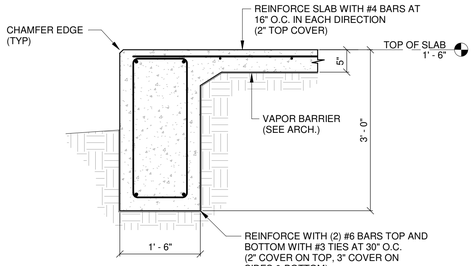
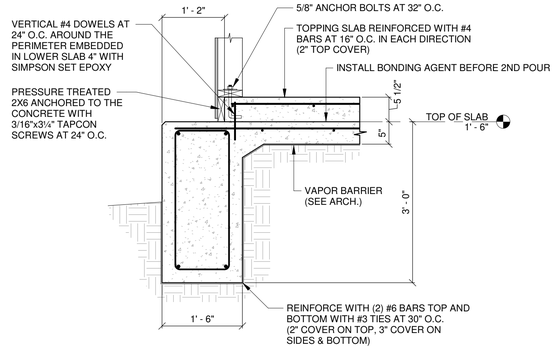
965 Highway 51, Suite 3 - Madison, MS 39110
(601) 898-1295

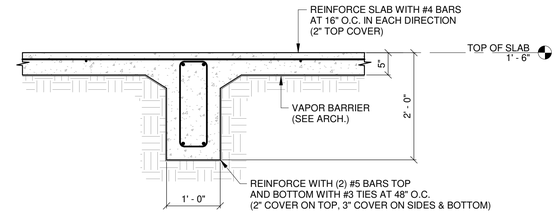
S2.1
SHEAR WALL PLAN



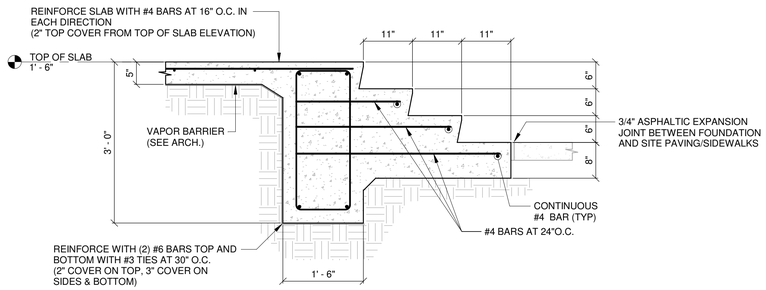
1 S3.0 EXTERIOR GRADE BEAM SECTION
3/4" = 1'-0"



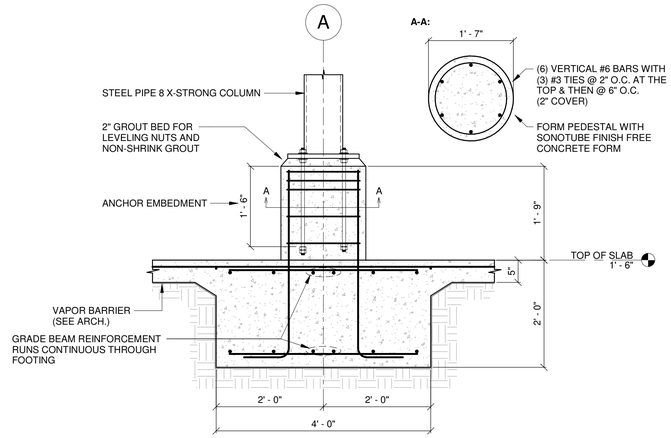
2 S3.0 EXTERIOR GRADE BEAM SECTION AT RAISED SLAB
3/4" = 1'-0"



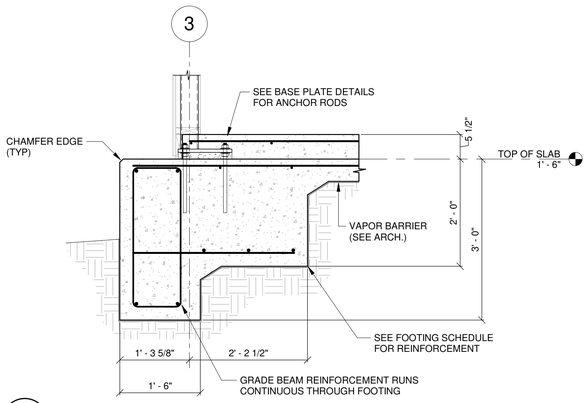
3 S3.0 INTERIOR GRADE BEAM SECTION
3/4" = 1'-0"



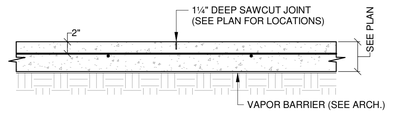
4 S3.0 FOUNDATION SECTION AT STEPS
3/4" = 1'-0"



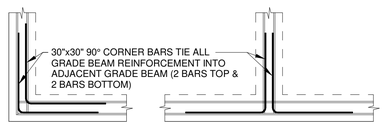
5 S3.0 FOUNDATION SECTION AT PIPE COLUMN
3/4" = 1'-0"



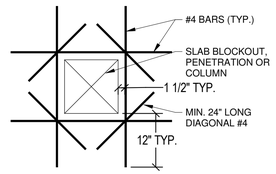
6 S3.0 FOUNDATION SECTION AT TUBE COLUMN
3/4" = 1'-0"



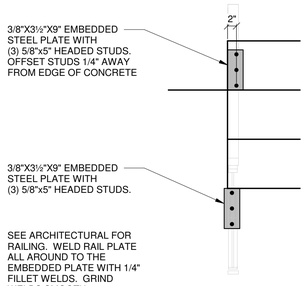
7 S3.0 SLAB CONTRACTION JOINT DETAIL
1" = 1'-0"



8 S3.0 GRADE BEAM INTERSECTION
3/8" = 1'-0"



9 S3.0 SLAB PENETRATION DETAIL
3/4" = 1'-0"



10 S3.0 HAND RAIL ANCHORAGE
3/4" = 1'-0"

WBA ARCHITECTURE

GS# 610-012 MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

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09 NOVEMBER 2021

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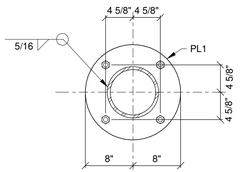
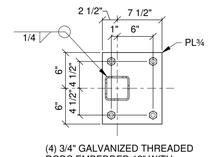
S3.0
DETAILS

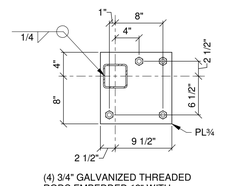
COLUMN SCHEDULE							
TOP OF SLAB	Pipe8XS 5 / S3.0 — 4 / S3.1	HSS5X5X1/4 6 / S3.0 — 5 / S3.1	HSS4X4X1/4 6 / S3.0 — 5 / S3.1	HSS4X4X1/4 6 / S3.0 — 5 / S3.1	HSS4X4X1/4 6 / S3.0 — 5 / S3.1	HSS4X4X1/4 6 / S3.0 — 5 / S3.1	TOP OF SLAB
1' - 6"							1' - 6"
BASE PLATE	1 / S3.1	2 / S3.1	3 / S3.1	2 / S3.1	2 / S3.1	2 / S3.1	
COLUMN LOCATION	A-2	A-3	B-1	B-3	C-1	C-3	



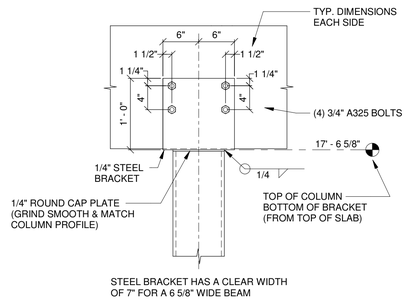
1 S3.1 BASE PLATE DETAIL 1
1" = 1'-0"



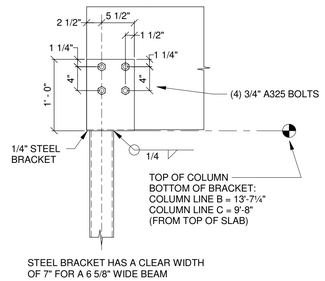
2 S3.1 BASE PLATE DETAIL 2
1" = 1'-0"



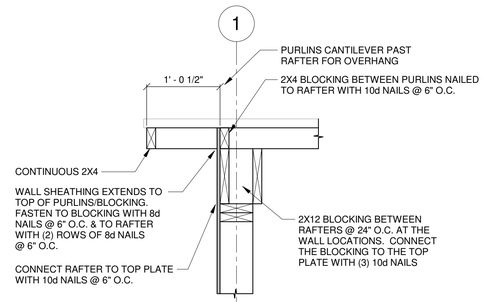
3 S3.1 BASE PLATE DETAIL 3
1" = 1'-0"



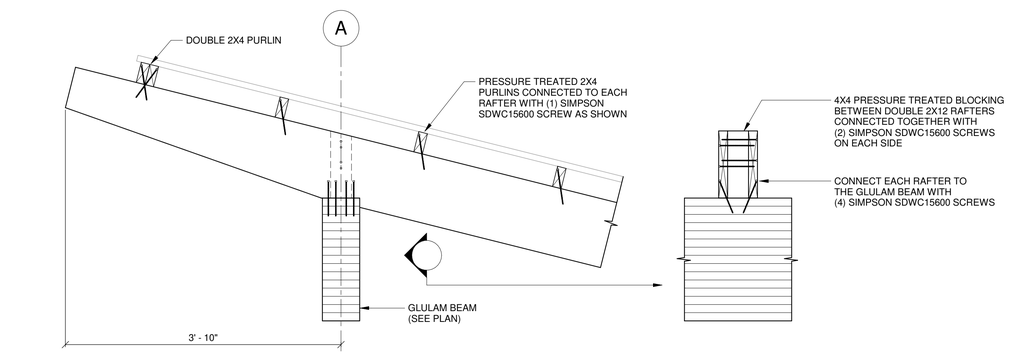
4 S3.1 GLULAM CONNECTION 1
1" = 1'-0"



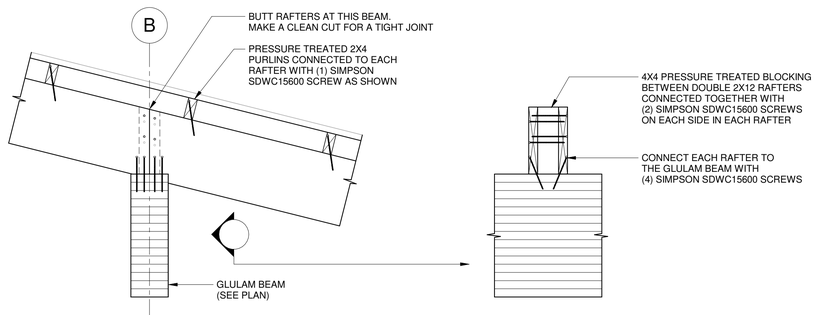
5 S3.1 GLULAM CONNECTION 2
1" = 1'-0"



6 S3.1 ROOF OVERHANG SECTION
1" = 1'-0"



7 S3.1 ROOF FRAMING SECTION (HIGH SIDE)
1" = 1'-0"



8 S3.1 ROOF FRAMING SECTION (INTERIOR GLULAM)
1" = 1'-0"

WBA ARCHITECTURE

GS# 610-012 MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

JASON M. MCQUEEN
LICENSED PROFESSIONAL ENGINEER
18476
STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE

McQUEEN STRUCTURAL ENGINEERING
965 Highway 51, Suite 3 - Madison, MS 39110
(601) 898-1295

S3.1
DETAILS

ELECTRICAL LEGEND

GENERAL NOTES

1. ALL EQUIPMENT AND DEVICES ARE TO BE FLUSH MOUNTED UNLESS OTHERWISE NOTED.
2. DEVICES NOTED AS "GFI" SHALL BE GROUND FAULT CIRCUIT INTERRUPTING DEVICES.
3. DEVICES NOTED AS "WP" SHALL BE WEATHERPROOF WHILE-IN-USE.
4. DEVICES NOTED AS "DL" SHALL BE RATED FOR DAMP LOCATION.
5. PROVIDE UNSWITCHED POWER TO EMERGENCY BATTERY PACKS.

LUMINAIRES (See Light Fixture Schedule)

NOTE: THE NUMBER INSIDE THE CIRCLE IS THE CIRCUIT NUMBER. THE LETTER BESIDE THE SYMBOL IS THE FIXTURE TYPE DESCRIBED IN THE LIGHT FIXTURE SCHEDULE.

? ? SITE POLE TOP LIGHT FIXTURE.

? WALL MOUNTED LINEAR FIXTURE.

SWITCHES

$ SINGLE-POLE, SINGLE-THROW SWITCH. MOUNT CENTERLINE OF BOX AT 45"A.F.F. UNLESS NOTED OTHERWISE.

D LED DIMMER EQUAL TO LEVITON #IP710-LFZ MOUNT CENTERLINE OF BOX AT 45"A.F.F. UNLESS NOTED OTHERWISE.

GEAR

? PANELBOARD.

MISCELLANEOUS

C CONTACTOR.

PE PHOTOCELL.

VOLTAGE DROP CHART FOR 20A, 1Ø CIRCUITS

Voltage	Circuit Length	Conductor Size (AWG)
120	< 50'	#12
120	> 50'	#10
120	> 90'	#8
120	> 140'	#6
277	< 130'	#12
277	> 130'	#10
277	> 200'	#8
277	> 330'	#6

VOLTAGE DROP CHART NOTES:
1) CIRCUIT SIZES INDICATED ON THE DRAWINGS ARE MINIMUM REQUIREMENTS. REFER TO THIS CHART FOR UPSIZING CONDUCTORS AS NEEDED.

2) DO NOT CONNECT CONDUCTORS LARGER THAN #10 DIRECTLY TO A RECEPTACLE OR A SWITCH. PROVIDE A JUNCTION BOX TO DOWNSIZE THE CONDUCTOR TO #12 AT THE DEVICE.

3) FOR CIRCUITS LONGER THAN THOSE LISTED ABOVE, CONSULT WITH THE ENGINEER FOR CONDUCTOR SIZES.

CONDUIT AND WIRING

CONDUCTORS IN CONDUIT CONCEALED WITHIN WALL OR CEILING. TIC MARKS INDICATE NUMBER OF CONDUCTORS. THE EQUIPMENT GROUNDING CONDUCTOR IS NOT SHOWN, BUT SHALL BE PROVIDED. SIZE THE EQUIPMENT GROUNDING CONDUCTOR AND THE CONDUIT PER THE NEC. THE ABSENCE OF TIC MARKS SIGNIFIES THAT TWO CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED. FOR EXAMPLE, THE MARKINGS TO THE LEFT SIGNIFY THAT THREE CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED.

#10 THE TEXT INSIDE THE ARC INDICATES THE AWG SIZE OF THE CONDUCTORS THAT SHALL BE RUN IN THE CONDUIT. THE ABSENCE OF TEXT SIGNIFIES THAT THE CONDUCTORS SHOULD BE #12 AWG.

CONDUCTORS IN CONDUIT CONCEALED BELOW GRADE OR FLOOR. TIC MARKS INDICATE NUMBER OF CONDUCTORS. THE EQUIPMENT GROUNDING CONDUCTOR IS NOT SHOWN, BUT SHALL BE PROVIDED. SIZE THE EQUIPMENT GROUNDING CONDUCTOR AND THE CONDUIT PER THE NEC. THE ABSENCE OF TIC MARKS SIGNIFIES THAT TWO CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED. THE MARKINGS TO THE LEFT SIGNIFY THAT THREE CONDUCTORS PLUS AN EQUIPMENT GROUNDING CONDUCTOR SHOULD BE PROVIDED.

LA-1 HOMERUN TO PANELBOARD. ARC DENOTES CONCEALED CIRCUITRY. TEXT DENOTES PANELBOARD NAME WITH CIRCUIT NUMBER. DEVICES HAVING CIRCUIT NUMBERS LOCATED BESIDE THEM MAY NOT SHOW THE CIRCUIT NUMBERS AT THE HOMERUN ARROWS.

RECEPTACLES

? DUPLEX RECEPTACLE, NEMA 5-20R, MOUNTED 18" A.F.F. TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.

LIGHTING FIXTURE SCHEDULE

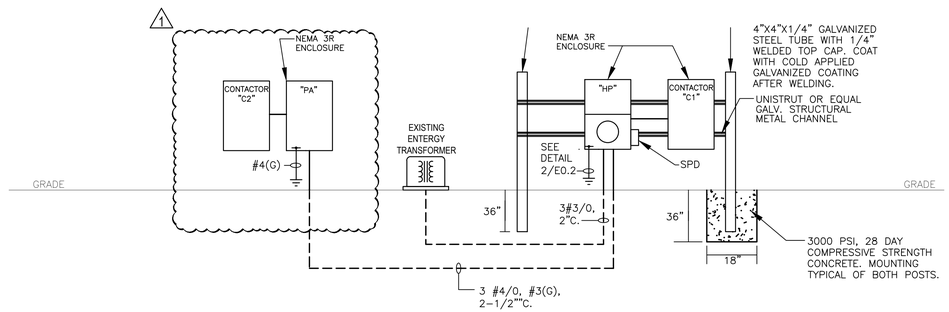
TYPE	MANUFACTURER	PART NUMBER	LAMPS	MOUNTING	REMARKS
A	SELUX	L60W-IC45-940-LW-F-04-*-1-DIM	LED, 44W 1018 LUMENS	SURFACE	*-COLOR BY ARCHITECT. -MOUNT ON SIDE OF BEAM.
SA	NLS LIGHTING	TRC-1-T3-16L-7-40K-UNV-SGL-SVR 12	LED, 36W 3636 LUMENS	POLE	- NO SUBSTITUTIONS.
SB	NLS LIGHTING	TRC-1-T4-16L-7-40K-UNV-SGL-SVR 12	LED, 56W 5992 LUMENS	POLE	- NO SUBSTITUTIONS.

HOUSE POWER PANEL **HP** — LOCATION: **ELECTRICAL RACK** — LUG LOCATION: **BOTTOM FEED** — **UL LISTED FOR SERVICE ENTRANCE**
VOLT: **240/120V, 1Ø, 3W** — MAIN BUS: **NEMA LUGS ONLY**
BUS: **200A** — MOUNTING: **SURFACE** — PANELBOARD AIC RATING (A): **22,000**

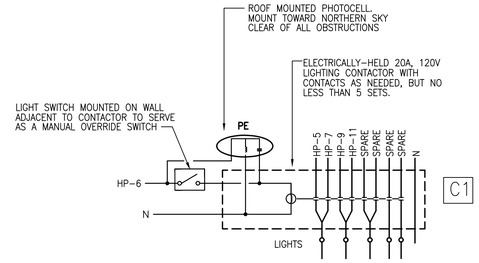
CIRCUIT NO.	BREAKER AMPS	BREAKER POLES	DESCRIPTION	PHASE LOAD (KVA) L1		PHASE LOAD (KVA) L2		DESCRIPTION	BREAKER AMPS	BREAKER POLES	CIRCUIT NO.
1	200	2	PANEL 'PA'	0.9	0.0			FULL WIDTH BREAKER	-	-	2
3	-	-	-			0.9	0.0	-	-	-	4
5	20	2	LIGHTS	0.4	0.0			CONTACTOR C1	20	1	6
7	-	-	-			0.4	0.0	SPACE	-	-	8
9	20	2	LIGHTS	0.2	0.0			SPACE	-	-	10
11	-	-	-			0.2	0.0	SPACE	-	-	12
TOTAL				1.5		1.5					

PANEL **PA** — LOCATION: **CLASSROOM** — LUG LOCATION: **BOTTOM FEED**
VOLT: **240/120V, 1Ø, 3W** — MAIN BUS: **200A MAIN BREAKER** — **NEMA 3R ENCLOSURE**
BUS: **200A** — MOUNTING: **SURFACE** — PANELBOARD AIC RATING (A): **10,000**

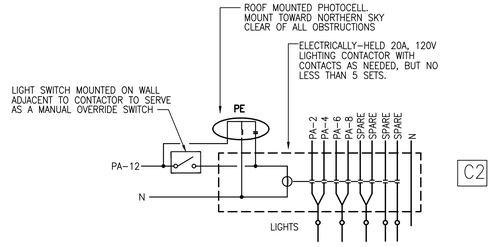
CIRCUIT NO.	BREAKER AMPS	BREAKER POLES	DESCRIPTION	PHASE LOAD (KVA) L1		PHASE LOAD (KVA) L2		DESCRIPTION	BREAKER AMPS	BREAKER POLES	CIRCUIT NO.
1	20	1	REC. - ELECTRICAL	0.2	0.2			LIGHTS	20	2	2
3	20	1	REC. - OUTDOOR CLASSROOM			0.2	0.2	-	-	-	4
5	20	1	REC. - OUTDOOR CLASSROOM	0.2	0.2			LIGHTS	20	2	6
7	20	1	REC. - OUTDOOR CLASSROOM			0.2	0.2	-	-	-	8
9	20	1	LTS. - PAVILION	0.0	0.0			PLAY GROUND TOWER	20	1	10
11	20	1	SPARE			0.0	0.0	CONTACTOR C2	20	1	12
13	20	1	SPARE	0.0	0.1			LIGHTS	20	2	14
15	20	1	SPARE			0.0	0.1	-	-	-	16
17	20	1	SPARE	0.0	0.0			SPARE	20	1	18
19	20	1	SPARE			0.0	0.0	SPARE	20	1	20
21	20	1	SPARE	0.0	0.0			SPARE	20	1	22
23	20	1	SPARE			0.0	0.0	SPARE	20	1	24
25	20	1	SPARE	0.0	0.0			SPARE	20	1	26
27	20	1	SPARE			0.0	0.0	SPARE	20	1	28
29	20	1	SPARE	0.0	0.0			SPARE	20	1	30
31	20	1	SPARE			0.0	0.0	SPARE	20	1	32
33	20	1	SPARE	0.0	0.0			SPARE	20	1	34
35	20	1	SPARE			0.0	0.0	SPARE	20	1	36
37	20	1	SPARE	0.0	0.0			SPARE	20	1	38
39	20	1	SPARE			0.0	0.0	SPARE	20	1	40
41	20	1	SPARE	0.0	0.0			SPARE	20	1	42
TOTAL				0.9		0.9					



1 / E0.0 ONE-LINE DIAGRAM
Scale: NONE



2 / E0.0 LIGHTING CONTACTOR C1 DETAIL
Scale: NONE



3 / E0.0 LIGHTING CONTACTOR C2 DETAIL
Scale: NONE

THE POWER SOURCE PLLC
305 HIGHWAY 51
RIDGELAND, MS 39157
VOICE (601) 605-4820
FAX (601) 605-4875
TPS PROJ. # 21091

WBA ARCHITECTURE

GS# 610-012
MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

CHRISTOPHER L. GREEN — 16778 — PROFESSIONAL ENGINEER — 11/8/2021 — STATE OF MISSISSIPPI

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

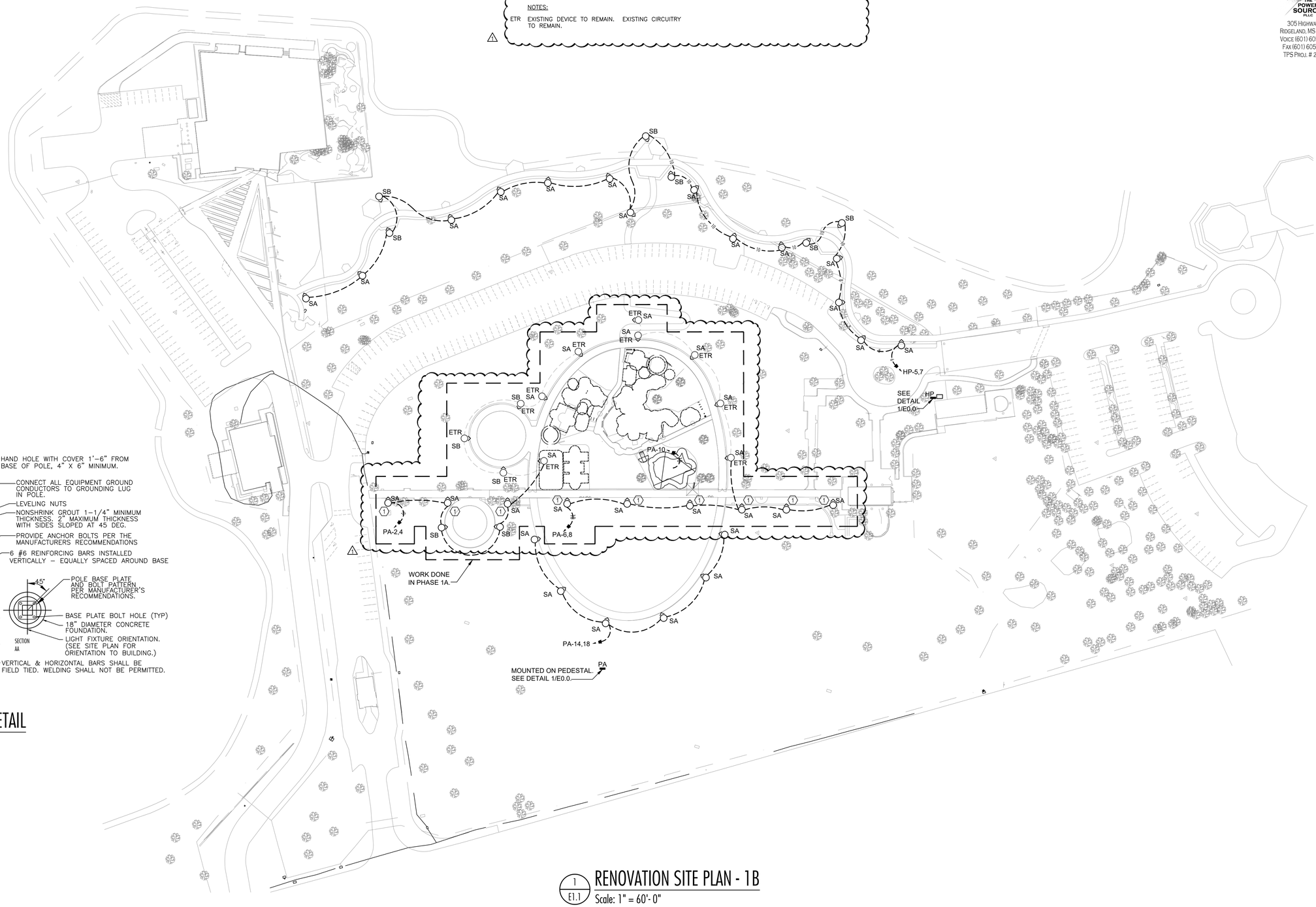
E0.0
ELECTRICAL LEGEND

KEYED NOTES

Mark	Description
1	FIXTURES PROVIDED BY OWNER.

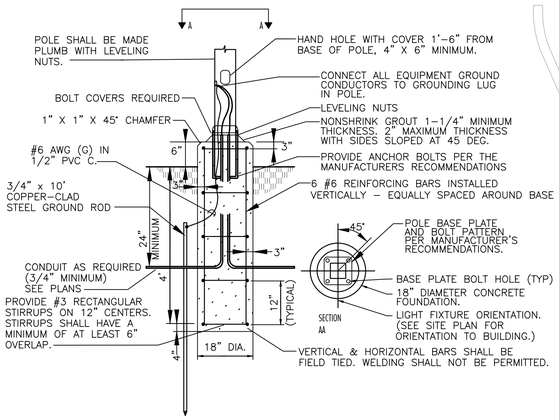
NOTES:

ETR EXISTING DEVICE TO REMAIN. EXISTING CIRCUITRY TO REMAIN.



1 / E1.1 RENOVATION SITE PLAN - 1B

Scale: 1" = 60'- 0"



2 / E1.1 POLE BASE DETAIL

Scale: NONE

THE POWER SOURCE PLLC
305 HIGHWAY 51
RIDGELAND, MS 39157
VOICE (601) 605-4820
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TPS PROJ. # 21091

WBA ARCHITECTURE

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MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS

Riverside Park Circle
Jackson, MS 39202

CHRISTOPHER L. GREEN — 16778 — PROFESSIONAL ENGINEER — 11/9/2021 — STATE OF MISSISSIPPI

09 NOVEMBER 2021

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1	Addendum 01	11.16.21

E1.1

RENOVATION SITE PLAN-1B

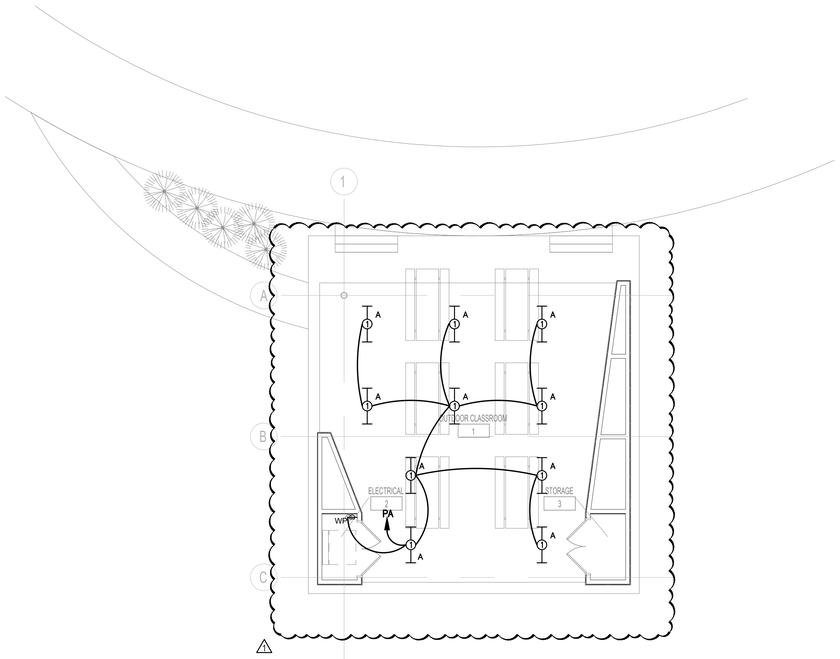
THE POWER SOURCE PLLC
305 HIGHWAY 51
RIDGELAND, MS 39157
VOICE (601) 605-4820
FAX (601) 605-4875
TPS PROJ. # 21091

WBA ARCHITECTURE

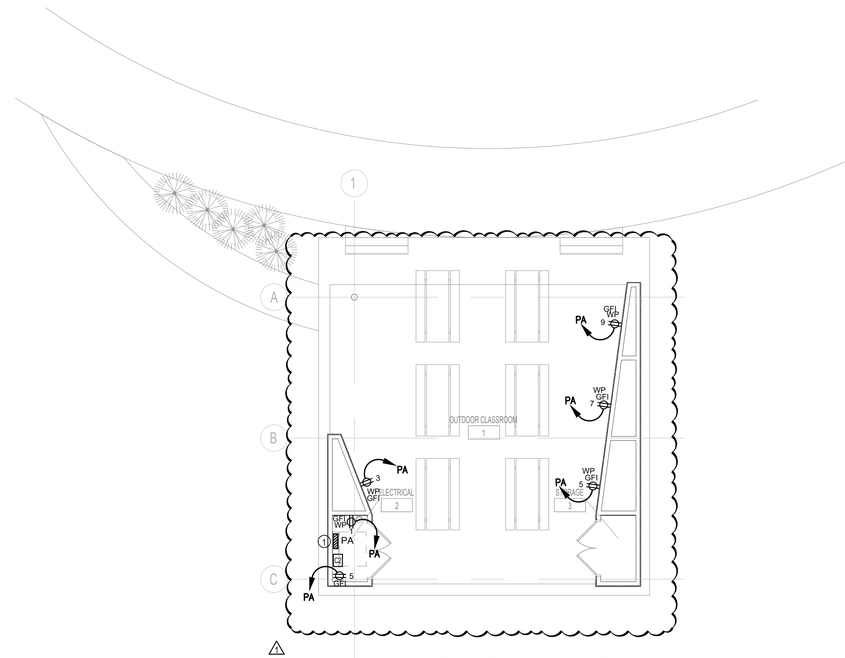
GS# 610-012 MCM LEFLEUR'S BLUFF PARK IMPROVEMENTS (PHASE 1B)

MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS
Riverside Park Circle
Jackson, MS 39202

① PROVIDE FIVE DEDICATED CIRCUITS, WITH 50' OF ROLLED UP S.O. CORD AND A CORD CAP FOR EACH. LEAVE CABLE NEATLY BUNDLED ON WALL HOOKS IN THE ELECTRICAL ROOM.



1 / E2.0 EXTERIOR CLASSROOM - LIGHTING PLAN
Scale: 1/8" = 1'- 0"



2 / E2.0 EXTERIOR CLASSROOM - POWER PLAN
Scale: 1/8" = 1'- 0"

CHRISTOPHER L. GREER 16778 LICENSED PROFESSIONAL ENGINEER STATE OF MISSISSIPPI 11/9/2021

09 NOVEMBER 2021

CONSTRUCTION DOCUMENTS

WBA # 0619

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 01	11.16.21

E2.0
LIGHTING/POWER PLANS