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Ecological Design Group
120 S. Izard Street,
Little Rock, AR 72201

Date: 05/29/2025
Project: Colonial Park Improvements
Location: 395 Colonial Drive, Marion, AR 72364
EDG Project No: #25-005

RE: Narrative of Addendum 1

Below is a summary of the items included as a part of this revision:

Drawing Revisions:

Sheets	Sheet Name	Brief Description of Changes
C0.00	Cover Sheet	1. Electrical sheets added to Sheet Index
C1.00	Site Plan South	1. Dimensions added to existing shade structures. 2. Lighting locations updated per electrical plans. 3. Backless bench quantity updates. 4. Site elements noted to be provided by owner: playground equipment, pump track, prefab restroom, shade structures, & furnishings. These items are to be excluded from bid. 5. Renamed "Concrete Sidewalk Underdrain" to "Elevated Walkway"
C1.01	Site Plan North	1. Lighting locations updated per electrical plans
C2.00	Utility Plan	1. Revised grinder pump call out to specify that it will be provided by owner and excluded from bid.
C5.01	Site Details	2. Changed concrete thickness for Post Tension Concrete from "4" Min. 5" Preferred" to "5"" 3. Renamed "Concrete Sidewalk Underdrain" to "Elevated Walk"
L1.00	Landscape Plan South	1. Lighting locations updated per electrical plans
L1.01	Landscape Plan North	1. Lighting locations updated per electrical plans
L1.10	Landscape Notes & Details	1. Irrigation notes updated
E1.0	Electrical Power and Lighting Legend	1. Added sheet.
E2.0	Electrical Site Plan	1. Added sheet.

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Specification Revisions:

Section	Specification	Brief Description of Changes
004113	Bid Form	1. Added Allowances section to Article 3.
004113.01	Bid Form Attachment A	1. Removed items that have been addended in the plans to be provided by owner. 2. Added table for allowances.
012100	Allowances	1. Specification Added
012200	Unit Prices	1. Specification Added
260000	Electrical General Provisions	1. Specification Added
260519	Low-Voltage Electrical Power Conductors and Cables	1. Specification Added
260526	Grounding and Bonding for Electrical Systems	1. Specification Added
260533	Raceways and Boxes for Electrical Systems	1. Specification Added
260553	Identification for Electrical Systems	1. Specification Added
265119	General Lighting	1. Specification Added

Feel free to contact JD Borgeson at jdborgeson@ecologicaldg.com for any questions or comments.

Thank you,

JD Borgeson, PE
(903) 293-0622

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

City of Marion
ATTN: Cheryl Starling
P.O. Box 717
Marion, AR 72364

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. List of Proposed Subcontractors;

C. List of Proposed Suppliers;

D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;

E. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;

F. Required Bidder Qualification Statement with supporting data; and

G. Attachment A – Unit Prices

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

3.01 *Lump Sum Bids*

A. Bidder will complete the Work in accordance with the Contract Documents for the following lump sum (stipulated) price(s), together with any Unit Prices indicated in Paragraph 3.02:

1. Lump Sum Price (Single Lump Sum)

Lump Sum Bid Price	$

B. All specified cash allowance(s) are included in the price(s) set forth below, and have been computed in accordance with Paragraph 13.02 of the General Conditions.

Lump Sum for Cash Allowance 1	$
Total for all Lump Sum for Cash Allowances	$

3.02 *Unit Prices*

A. Bidder will perform the Work for the Lump Sum Price stated above for the indicated unit prices in Attachment A – Unit Prices. Bidder is required to complete Attachment A and submit as part of Bid; however, the unit price sheet is for the purpose of comparing bids and have no bearing on the contract.

B. Bidder acknowledges that:

1. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—TIME OF COMPLETION

4.01 Bidder agrees that the Work will be substantially complete within **90** calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **120** calendar days after the date when the Contract Times commence to run.

4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:

   a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

   b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.

d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____
(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

Address for giving notices:

_____
_____

Bidder's Contact:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Phone: _____

Email: _____

Address:

_____
_____
_____

Bidder's Contractor License No.: (if applicable) _____

BID FORM ATTACHMENT A – UNIT PRICES

ARTICLE 1—UNIT PRICES FOR LUMP SUM BID

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Demo + Site Prep + Erosion Control + Temporary Seeding	LS	1	$	$
2	Earthwork/Grading	CY	5,060	$	$
3	Export Fill	CY	400	$	$
4	Class 7 Base - Parking + Pickleball + Restroom	TON	600	$	$
5	Asphalt Pavement	SF	12,218	$	$
6	Class 7 Base - Sidewalks	TON	230	$	$
7	ADA Parking Stall	EA	2		
8	Pickleball Courts + Netting	SF	4,140	$	$
9	Pickleball Fencing	LF	250	$	$
10	Pickleball Lighting	LS	1	$	$
11	Concrete Sidewalk + Concrete Plaza	SF	14,100	$	$
12	Playground Improvements + Steps + Surfacing	LS	1	$	$
13	Concrete Ribbon Curb	LF	648	$	$
14	Water Utilities	LF	330	$	$
15	PVC Force Main 1.25”	LF	520	$	$
16	Site Lighting	LS	1	$	$
17	Site Electrical	LS	1	$	$
18	Trees - 3" caliper (45 gallon)	EA	17	$	$
19	Hydroseed Bermuda + Cover	SF	236,726	$	$
20	Wetland Seed Mix + Hydroseed	SF	4,786	$	$
21	Erosion Control Blankets	SF	2,878	$	$
22	Stormwater Infrastructure	LS	1	$	$
23	Dog Park Fencing	LF	620	$	$
24	Elevated Walk	EA	1	$	$
25	Boardwalk	SF	145	$	$
31	General Conditions + Profit + Overhead	LS	1	$	$
Total Lump Sum Bid Price					$

ARTICLE 2—UNIT PRICES FOR CASH ALLOWANCES

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Cash Allowance 1 – Undercut	CY	1600	$	$
Total for all Lump Sum for Cash Allowances					$

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:

1. Unit-cost allowances.

C. Related Requirements:

1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

1.2 DEFINITIONS

A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.4 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other

portions of the Work.

1.6 UNIT-COST ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.7 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.

PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Quantity Allowance: Include 1600 cu. yd. of unsatisfactory soil excavation and disposal off-site and replacement with satisfactory soil material from off-site, as specified in Section 312000 "Earth Moving."

1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 012100 "Allowances" for procedures for using unit prices to adjust quantity allowances.

1.2 DEFINITIONS

A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the Part 3 "Schedule of Unit Prices" Article contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.

1. Description: Unsatisfactory soil excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required, in accordance with Section 312000 "Earth Moving."

2. Unit of Measurement: **Cubic Yard** of soil excavated, based on in-place surveys of volume before and after removal.
3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."

END OF SECTION 012200

SECTION 260000 - ELECTRICAL - GENERAL PROVISIONS

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, materials and equipment required and install complete and make operational, electrical system as shown on the Drawings and as specified herein.

B. The work shall include the following:

1. Coordinate the electrical service requirements with the power company and provide the electrical service(s) from the Power Company at the locations indicated.

2. Provide conduit, wire and field connections for all equipment, HVAC systems, panelboards, transformers, and electrical equipment furnished under Divisions 1, 11, 21, 22, 23, and 26.

C. Each bidder or their authorized representatives shall, before preparing their proposal, visit all areas of the existing buildings and structures in which work under this sub-bid is to be performed and inspect carefully the present installation. The submission of the proposal by this bidder shall be considered evidence that their representative has visited the buildings and structures and noted the locations and conditions under which the work will be performed and that he/she takes full responsibility for a complete knowledge of all factors governing his/her work.

2.1 SUBMITTALS

A. As a minimum all equipment specified in each Section of Division 26 shall be submitted at one time. As an example all lighting fixtures shall be submitted together, all motor control centers shall be submitted together, etc. Submittals that do not comply will be returned disapproved.

B. Mark submittals to clearly identify proposed equipment including accessories, options, and features and to exclude parts not applicable to the project. When manufacturer’s cut sheets apply to a product series rather than a specific product, the data specifically applicable to the project shall be highlighted or clearly indicated by other means. Each submittal piece of literature and each submittal drawing shall clearly reference the Project Specification and/or Contract Drawing that the submittal is to cover. General catalogs will not be accepted as cut sheets to fulfill submittal requirements.

C. Check shop drawings for accuracy prior to submittal. Shop drawings shall be stamped with the date checked and a statement indicating that the shop drawings conform to this Section and the Drawings. This statement shall also list all exceptions to this Section and the Drawings. Mark submittals to identify proposed equipment including accessories, options and features being proposed for approval and exclude parts not to be used. Shop drawings not so checked and noted shall be returned marked NOT APPROVED.

D. The Engineer's check shall be for conformance with the design concept of the project and compliance with this Section and the Drawings. Errors and omissions on approved shop

drawings shall not relieve the Contractor from the responsibility of providing materials and workmanship required by this Section and the Drawings.

E. All dimensions shall be field verified at the job site and coordinated with the work of all other trades.

F. Material shall not be ordered or shipped until the shop drawings have been approved. No material shall be ordered or shop work started if shop drawings are marked “APPROVED AS NOTED - CONFIRM," "APPROVED AS NOTED - RESUBMIT" or "NOT APPROVED."

G. Operation and Maintenance Data

1. Submit operations and maintenance data for equipment furnished under this Division, in accordance with Section 017823. The manuals shall be prepared specifically for this installation and shall include catalog data sheets, drawings, equipment lists, descriptions, parts lists including replacement part numbers, to instruct operating and maintenance personnel unfamiliar with such equipment.

2. Manuals shall include the following as a minimum:

a. A complete "As-Built" set of approved shop drawings.

b. A complete list of the equipment supplied, including serial numbers, ranges and pertinent data.

c. Detailed service, maintenance and operation instructions for each item supplied.

H. Exceptions for Submittals

1. Exceptions to the Specifications or Drawings shall be clearly defined by the Electrical Subcontractor in a separate section of each submittal package. The submittal shall contain the reason for the exception, the exact nature of the exception and the proposed substitution so that a proper evaluation may be made by the Engineer. The acceptability of any device or methodology submitted as an “or equal” or “exception” to the Specifications shall be at the sole discretion of the Engineer.

I. Submittals will be returned to the Contractor under one of the following codes.

Code 1 - "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.

Code 2 - "APPROVED AS NOTED" - This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.

Code 3 - "APPROVED AS NOTED/CONFIRM" - This combination of codes is assigned when a confirmation of the notations and comments IS required by the Contractor. The Contractor may, at his own risk, release the equipment or material for manufacture; however, all notations

and comments must be incorporated into the final product. This confirmation shall specifically address each omission and nonconforming item that was noted. Confirmation is to be received by the Engineer within 10 calendar days of the date of the Engineer's transmittal requiring the confirmation.

Code 4 - "APPROVED AS NOTED/RESUBMIT" - This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the Engineer within 15 calendar days of the date of the Engineer's transmittal requiring the resubmittal.

Code 5 - "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

Code 6 - "COMMENTS ATTACHED" is assigned where there are comments attached to the returned submittal which provide additional data to aid the Contractor.

Code 7 - "RECEIPT ACKNOWLEDGED" - This code is assigned to acknowledge receipt of a submittal that is not subject to the Engineer's review and approval; and, is being filed for informational purposes only. This code is generally used in acknowledging receipt of *means and methods of construction* work plan, field conformance test reports, and Health and Safety plans.

Codes 1 through 5 designate the status of the reviewed submittal with Code 6 showing there has been an attachment of additional data.

3.1 REFERENCE STANDARDS

A. Electric equipment, materials and installation shall comply with the National Electrical Code (NEC).

B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

4.1 PRIORITY OF THE CONTRACT DOCUMENTS

A. If, during the performance of the work, the Contractor finds a conflict, error or discrepancy between or among one or more of the Sections or between or among one or more Sections and the Drawings, furnish the higher performance requirements. The higher performance requirement shall be considered the equipment, material, device or installation method which represents the most stringent option, the highest quality or the largest quantity.

B. In all cases, figured dimensions shall govern over scaled dimensions, but work not dimensioned shall be as directed by the Engineer and work not particularly shown, identified, sized, or located shall be the same as similar work that is shown or specified.

C. Detailed Drawings shall govern over general drawings, larger scale Drawings take precedence over smaller scale Drawings, Change Order Drawings shall govern over Contract Drawings and Contract Drawings shall govern over Shop Drawings.

D. If the issue of priority is due to a conflict or discrepancy between the provisions of the Contract Documents and any referenced standard, or code of any technical society, organization or association, the provisions of the Contract Documents will take precedence if they are more stringent or presumptively cause a higher level of performance. If there is any conflict or discrepancy between standard specifications, or codes of any technical society, organization or association, or between Laws and Regulations, the higher performance requirement shall be binding on the Contractor, unless otherwise directed by the Engineer.

E. In accordance with the intent of the Contract Documents, the Contractor accepts the fact that compliance with the priority order specified shall not justify an increase in Contract Price or an extension in Contract Time nor limit in any way, the Contractor's responsibility to comply with all Laws and Regulations at all times

5.1 SERVICE AND METERING

A. Service will be obtained at 240 Volts, 1Phase, 3Wire, 60 Hz.

B. The Contractor shall be responsible for the following work:

1. Obtain an estimate from the power company for the work described above and include the cost of the power company work in the Bid Price.

2. Make all arrangements with the power company for obtaining electrical service, pay all power company charges.

6.1 CODES, INSPECTION AND FEES

A. Equipment, materials and installation shall comply with the requirements of the local authority having jurisdiction.

B. Obtain all necessary permits and pay all fees required for permits and inspections.

7.1 INTERPRETATION OF DRAWINGS

A. Unless specifically stated to the contrary, the Drawings do not show exact locations of conduit runs. Coordinate the conduit installation with other trades and the actual supplied equipment.

B. Install each 3 phase circuit in a separate conduit unless otherwise shown on the Drawings.

C. Conduit shown exposed shall be installed exposed; conduit shown concealed shall be installed concealed. Unless otherwise indicated install branch circuit conduits exposed in process/ industrial type spaces and concealed in finished spaces.

D. Where circuits are shown as "home-runs" all necessary fittings and boxes shall be provided for a complete raceway installation. Where home-runs indicate conduit is to be installed concealed or exposed the entire branch circuit shall be installed in the same manner.

E. Verify the exact locations and mounting heights of lighting fixtures, switches and receptacles prior to installation.

F. Except where dimensions are shown, the locations of equipment, fixtures, outlets and similar devices shown on the Drawings are approximate only. Exact locations shall be determined by the Contractor and approved by the Engineer during construction. Obtain information relevant to the placing of electrical work and in case of any interference with other work, proceed as directed by the Engineer and furnish all labor and materials necessary to complete the work in an approved manner.

G. Circuit layouts are not intended to show the number of fittings, or other installation details. Furnish all labor and materials to install and place in satisfactory operation all power, lighting and other electrical systems shown.

H. Redesign of electrical or mechanical work, which is required due to the Contractor's use of an alternate item, arrangement of equipment and/or layout other than specified herein, shall be done by the Contractor at his/her own expense. Redesign and detailed plans shall be submitted to the Engineer for approval. No additional compensation will be provided for changes in the work, either his/her own or others, caused by such redesign.

I. Raceways and conductors for low voltage (120 Volts) thermostats controlling HVAC unit heaters, exhaust fans and similar equipment are not shown on the Drawings. Provide raceways and conductors between the thermostats, the HVAC equipment and the motor starters for a complete and operating system. Raceways shall be installed concealed in all finished space and may be installed concealed or exposed in process spaces. Refer to the HVAC drawings for the locations of the thermostats.

8.1 SIZE OF EQUIPMENT

A. Investigate each space in the structure through which electrical equipment furnished under Division 26 must pass to reach its final location. Coordinate shipping splits with the manufacturer to permit safe handling and passage through restricted areas in the structure.

B. The equipment shall be kept upright at all times during storage and handling. When equipment must be tilted for passage through restricted areas, brace the equipment to ensure that the tilting does not impair the functional integrity of the equipment.

9.1 RECORD DRAWINGS

A. As the work progresses, legibly record all field changes on a set of Project Contract Drawings, hereinafter called the "Record Drawings."

10.1 MATERIALS AND EQUIPMENT

A. Materials and equipment furnished under this contract shall be new.

B. Material and equipment of the same type shall be the product of one manufacturer and shall be UL listed.

11.1 EQUIPMENT IDENTIFICATION

A. Identify equipment, disconnect switches, separately mounted motor starters, control stations, etc. furnished under Division 26 with the name of the equipment it serves. Motor control centers, control panels, panelboards, switchboards, switchgear, junction or terminal boxes, transfer switches, etc, shall have nameplate designations as shown on the Drawings.

B. Nameplates shall be engraved, laminated plastic, not less than 1/16-in thick by 3/4-in by 2-1/2-in with 3/16-in high white letters on a black background.

C. Nameplates shall be screw mounted to NEMA 1 enclosures. Nameplates shall be bonded to all other enclosure types using an epoxy or similar permanent waterproof adhesive. Two sided foam adhesive tape is not acceptable. Where the equipment size does not have space for mounting a nameplate the nameplate shall be permanently fastened to the adjacent mounting surface.

PART 2 EXECUTION

1.1 INSTALLATION

A. Work not installed according to the Drawings and Specification shall be subject to change as directed by the Engineer at Contractor's expense.

B. Electrical equipment shall be protected against mechanical and water damage. Store all electrical equipment in dry permanent shelters. Do not install electrical equipment in place until structures are weather-tight.

C. Damaged equipment shall be replaced or repaired by the equipment manufacturer, at the Engineer's discretion and at the Contractor's expense.

D. Repaint any damage to factory applied paint finish using touch-up paint furnished by the equipment manufacturer.

2.1 WORK SUPERVISION

A. The Contractor shall designate in writing the qualified electrical supervisor who shall provide supervision to all electrical work on this project. The minimum qualifications for the electrical supervisor shall be a master electrician as defined by the Arkansas Board of Electrical Examiners. The supervisor or his appointed alternate possessing at least a journeyman electrician license shall be on site whenever electrical work is being performed. The qualifications of the electrical supervisor shall be subject to approval of the Owner and the Engineer.

B. All master and journeyman electricians shall be licensed in accordance with Arkansas Code Title 17 Chapter 28 - Electricians. The website located at http://www.arkleg.state.ar.us publishes the text of this statutory requirement. No unlicensed electrical workers shall perform work on this project. Apprentice electricians in a ratio of not more than one apprentice per journeyman electrician will be allowed if the apprentices are licensed and actively participating in an apprenticeship program recognized and approved by the Arkansas Board of Electrical Examiners.

END OF SECTION 260000

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Copper building wire rated 600 V or less.
2. Connectors, splices, and terminations rated 600 V and less.

B. Related Requirements:

1. Section 260523 "Control-Voltage Electrical Power Cables" for control systems communications cables and Classes 1, 2, and 3 control cables.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Product Schedule: Indicate type, use, location, and termination locations.

1.3 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Cerro Wire LLC.
2. General Cable Technologies Corporation.
3. Okonite Company (The).
4. Southwire Company.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 for stranded conductors.

E. Conductor Insulation:

1. Type NM: Comply with UL 83 and UL 719.
2. Type RHH and Type RHW-2: Comply with UL 44.
3. Type USE-2 and Type SE: Comply with UL 854.
4. Type THHN and Type THWN-2: Comply with UL 83.
5. Type THW and Type THW-2: Comply with NEMA WC-70/ICEA S-95-658 and UL 83.
6. Type XHHW-2: Comply with UL 44.

2.2 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.

C. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.

1. Material: Copper.
2. Type: One hole with long barrels.
3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

B. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Service Entrance: Type THHN/THWN-2, single conductors in raceway.

B. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway.

C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Type THHN/THWN-2, single conductors in raceway.

D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.

E. Feeders in Cable Tray: Type THHN/THWN-2, single conductors in raceway.

F. Exposed Branch Circuits, Including in Crawlspaces: Type THHN/THWN-2, single conductors in raceway.

G. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway

H. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.

B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.

C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 IDENTIFICATION

A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies.

3.7 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes grounding and bonding systems and equipment.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans showing dimensioned as-built locations of grounding features specified in "Field Quality Control" Article.

B. Qualification Data: For testing agency and testing agency's field supervisor.

C. Field quality-control reports.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Burndy; Part of Hubbell Electrical Systems.
2. O-Z/Gedney; a brand of Emerson Industrial Automation.
3. Thomas & Betts Corporation; A Member of the ABB Group.

2.3 CONDUCTORS

A. Conductors shall be as specified under Section 260519 “Low-Voltage Electrical Power Conductors and Cables.”

2.4 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.

B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

C. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless compression-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

D. Beam Clamps: Mechanical type, terminal, ground wire access from four directions, with dual, tin-plated or silicon bronze bolts.

E. Cable-to-Cable Connectors: Compression type, copper or copper alloy.

F. Conduit Hubs: Mechanical type, terminal with threaded hub.

G. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt.

H. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt.

I. Lay-in Lug Connector: Mechanical type, copper rated for direct burial terminal with set screw.

J. Water Pipe Clamps:

1. Mechanical type, two pieces with stainless-steel bolts.

    a. Material: Die-cast zinc alloy.
    b. Listed for direct burial.

2.5 GROUNDING ELECTRODES

A. Ground Rods: Copper-clad steel; 3/4 inch by 10 feet.

B. Ground Plates: 1/4 inch thick, hot-dip galvanized.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.

B. Underground Grounding Conductors: Install barecopper conductor, **No. 4/0** AWG minimum.

1. Bury at least 24 inches below grade.

C. Conductor Terminations and Connections:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
3. Connections to Ground Rods at Test Wells: Bolted connectors.
4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING AT THE SERVICE

A. Equipment grounding conductors and grounding electrode conductors shall be connected to the ground bus. Install a main bonding jumper between the neutral and ground buses.

3.3 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Water Heater, Heat-Tracing, and Antifrost Heating Cables: Install a separate insulated equipment grounding conductor to each electric water heater and heat-tracing cable. Bond conductor to heater units, piping, connected equipment, and components.

3.4 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. Ground Rods: Drive rods until tops are 2 inches below finished floor or final grade unless otherwise indicated.

1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.

C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.

1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.

D. Grounding and Bonding for Piping:

1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

3.5 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
3. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, at ground test wells, and at individual ground rods. Make tests at ground rods before any conductors are connected.

    a. Measure ground resistance no fewer than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
    b. Perform tests by fall-of-potential method according to IEEE 81.

C. Grounding system will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

E. Report measured ground resistances that exceed 5 ohms.

F. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Engineer promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal conduits and fittings.
2. Nonmetallic conduits and fittings.
3. Metal wireways and auxiliary gutters.
4. Nonmetal wireways and auxiliary gutters.
5. Boxes, enclosures, and cabinets.
6. Handholes and boxes for exterior underground cabling.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Metal Conduit:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

   a. Allied Tube & Conduit; a part of Atkore International.
   b. Republic Conduit.
   c. Thomas & Betts Corporation; A Member of the ABB Group.

2. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

3. GRC: Comply with ANSI C80.1 and UL 6.
4. IMC: Comply with ANSI C80.6 and UL 1242.
5. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.

   a. Comply with NEMA RN 1.

b. Coating Thickness: 0.040 inch, minimum.

6. EMT: Comply with ANSI C80.3 and UL 797.
7. FMC: Comply with UL 1; zinc-coated steel.
8. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

B. Metal Fittings: Comply with NEMA FB 1 and UL 514B.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Allied Tube & Conduit; a part of Atkore International.
b. Republic Conduit.
c. Thomas & Betts Corporation; A Member of the ABB Group.

2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

3. Fittings, General: Listed and labeled for type of conduit, location, and use.
4. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 1203 and NFPA 70.
5. Fittings for EMT:

a. Material: Steel.
b. Type: Compression.

6. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
7. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch, with overlapping sleeves protecting threaded joints.

C. Joint Compound for IMC, GRC, or ARC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Nonmetallic Conduit:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. CANTEX INC.
b. RACO; Hubbell.
c. Thomas & Betts Corporation; A Member of the ABB Group.

B. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1. ENT: Comply with NEMA TC 13 and UL 1653.
2. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.
3. LFNC: Comply with UL 1660.

C. Nonmetallic Fittings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. CANTEX INC.
b. RACO; Hubbell.
c. Thomas & Betts Corporation; A Member of the ABB Group.

2. Fittings, General: Listed and labeled for type of conduit, location, and use.

3. Fittings for ENT and RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.
4. Fittings for LFNC: Comply with UL 514B.
5. Solvents and Adhesives: As recommended by conduit manufacturer.

2.3 METAL WIREWAYS AND AUXILIARY GUTTERS

A. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1, Type 3R, Type 4, or Type 12 based on installation location, and sized according to NFPA 70.

1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.4 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Crouse-Hinds, an Eaton business.
2. Hoffman; a brand of Pentair Equipment Protection.
3. Hubbell Incorporated; Wiring Device-Kellems.
4. Thomas & Betts Corporation; A Member of the ABB Group.
5. Wiremold / Legrand.

B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.

E. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.

F. Metal Floor Boxes:

1. Material: Cast metal.
2. Type: Fully adjustable.
3. Shape: Rectangular.
4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

G. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb. Outlet boxes designed for attachment of luminaires weighing more than 50 lb shall be listed and marked for the maximum allowable weight.

H. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

I. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, galvanized, cast iron with gasketed cover.

J. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

K. Device Box Dimensions: 4 inches square by 2-1/8 inches deep.

L. Gangable boxes are prohibited.

2.5 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

A. General Requirements for Handholes and Boxes:

1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.
2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Quazite: Hubbell Power Systems, Inc.

2. Standard: Comply with SCTE 77.
3. Configuration: Designed for flush burial with closed bottom unless otherwise indicated.
4. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
5. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
6. Cover Legend: Molded lettering, "ELECTRIC.".
7. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC.
2. Concealed Conduit, Aboveground: GRC.
3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Indoors: Apply raceway products as specified below unless otherwise indicated.

1. Exposed and Subject to Severe Physical Damage: GRC. Raceway locations include the following:

    a. Loading dock.
    b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
    c. Mechanical rooms.
    d. Electrical rooms
    e. Gymnasiums.

2. Concealed in Ceilings and Interior Walls and Partitions: EMT.
3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
4. Damp or Wet Locations: GRC.
5. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.

C. Minimum Raceway Size: 3/4-inch trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
3. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.

F. Install surface raceways only where indicated on Drawings.

G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

H. Panel feeders shall not be installed on roofs unless specifically noted on plans or approve via RFI to engineer.

3.2 INSTALLATION

A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

B. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.

C. Raceways installed on roof shall be kept a minimum of 1” above roof deck and shall be supported using Dura-Blok rooftop supports with maximum spacing of 10’ between supports.

D. Do not install raceways or electrical items on any "explosion-relief" walls or rotating equipment.

E. Do not fasten conduits onto the bottom side of a metal deck roof.

F. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

G. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

H. Arrange stub-ups so curved portions of bends are not visible above finished slab.

I. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.

J. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.

K. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.

L. Support conduit within 12 inchesof enclosures to which attached.

M. Raceways Embedded in Slabs:

1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot intervals.
2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
3. Arrange raceways to keep a minimum of 2 inches of concrete cover in all directions.
4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
5. Change from ENT to GRC before rising above floor.

N. Stub-ups to Above Recessed Ceilings:

1. Use EMT, IMC, or RMC for raceways.
2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.

O. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

P. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.

Q. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

R. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

S. Expansion-Joint Fittings:

1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F and that has straight-run length that exceeds 25 feet.
2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:

a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
d. Attics: 135 deg F temperature change.

3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per degree F of temperature change for PVC conduits.
4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

T. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for recessed and semirecessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC in damp or wet locations subject to severe physical damage.
2. Use LFMC in damp or wet locations not subject to severe physical damage.

U. Mount boxes at heights indicated on Drawings or in Specification 262726 “Wiring Devices”. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.

V. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between the box and cover plate or the supported equipment and box.

W. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.

X. Locate boxes so that cover or plate will not span different building finishes.

Y. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.

Z. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

AA. Set metal floor boxes level and flush with finished floor surface.

BB. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit.

2. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified.
3. Install manufactured duct elbows for stub-up at poles and equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
4. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.

    a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.
    b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.

5. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.

B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.

D. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies.

3.6 FIRESTOPPING

A. Install firestopping at penetrations of fire-rated floor and wall assemblies.

3.7 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Color and legend requirements for raceways, conductors, and warning labels and signs.
2. Labels.
3. Tapes and stencils.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with NFPA 70.

B. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.

C. Comply with ANSI Z535.4 for safety signs and labels.

2.2 COLOR AND LEGEND REQUIREMENTS

A. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded service feeder and branch-circuit conductors.

1. Color shall be factory applied or field applied for sizes larger than No. 8 AWG if authorities having jurisdiction permit.

2. Colors for 240-V Circuits:
   a. Phase A: Black.
   b. Phase B: Red.

3. Color for Neutral: White.
4. Color for Equipment Grounds: Green.
5. Colors for Isolated Grounds: Green with white stripe.

B. Warning Label Colors:

1. Identify system voltage with black letters on an orange background.

C. Equipment Identification Labels:

1. Black letters on a white field.

2.3 TAPES AND STENCILS

A. Underground-Line Warning Tape:
1. Tape:

a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications utility lines.
b. Printing on tape shall be permanent and shall not be damaged by burial operations.
c. Tape material and ink shall be chemically inert and not subject to degradation when exposed to acids, alkalis, and other destructive substances commonly found in soils.

2. Color and Printing:

a. Comply with ANSI Z535.1, ANSI Z535.2, ANSI Z535.3, ANSI Z535.4, and ANSI Z535.5.
b. Inscriptions for Red-Colored Tapes: "ELECTRIC LINE, HIGH VOLTAGE"
c. Inscriptions for Orange-Colored Tapes: "TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE"

2.4 SIGNS

A. Laminated Acrylic or Melamine Plastic Signs:
1. Engraved legend.
2. Thickness:

a. For signs up to 20 sq. in. (129 sq. cm), minimum 1/16 inch (1.6 mm) thick.
b. For signs larger than 20 sq. in. (129 sq. cm), 1/8 inch (3.2 mm) thick.
c. Engraved legend with black letters on white face.
d. Self-adhesive.
e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.5 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).

B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.

B. Install identifying devices before installing acoustical ceilings and similar concealment.

C. Verify identity of each item before installing identification products.

D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.

E. Apply identification devices to surfaces that require finish after completing finish work.

F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.

G. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

H. System Identification for Raceways and Cables under 600 V: Identification shall completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.

   1. Secure tight to surface of conductor, cable, or raceway.

I. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.

J. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.

K. Underground Line Warning Tape:

   1. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inches (150 to 200 mm) below finished grade. Use

multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches (400 mm) overall.

2. Install underground-line warning tape for direct-buried cables and cables in raceways.

3.2 IDENTIFICATION SCHEDULE

A. Equipment Identification Labels:

1. Indoor Equipment: Self-adhesive label.
2. Outdoor Equipment: Laminated acrylic or melamine sign.

END OF SECTION 260553

SECTION 265119 - GENERAL LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes the following types of LED luminaires:
   1. Bollard
   2. Site Light
   3. Materials.
   4. Finishes.
   5. Luminaire support.

1.2 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color Rendering Index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. LED: Light-emitting diode.

F. Lumen: Measured output of lamp and luminaire, or both.

G. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product, arranged by designation.

B. Product Schedule: Refer to light fixture schedule on the plans.

1.4 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.5 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

B. Warranty Period: Five year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Product Schedule: Refer to light fixture schedule on the plans.

B. Fixture Schedule included in plans is basis of design. Equivalent alternates that meet all technical and aesthetics requirements are allowed and will be reviewed for equivalence by A/E team during submittal phase. Alternates shall include the following with their submittal, in addition to standard product data:
   1. Photometric lighting calculations for each space and exterior area.
   2. Control Device Layout showing part numbers and device locations.
   3. Lighting Fixture schedule including substituted fixture model number, voltage, wattage, and color temperature

C. Metal Parts:

   1. Free of burrs and sharp corners and edges.
   2. Sheet metal components shall be steel unless otherwise indicated.
   3. Form and support to prevent warping and sagging

D. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.

E. Diffusers, and Globes:

   1. Acrylic: One hundred percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
   2. Glass: Annealed crystal glass unless otherwise indicated.
   3. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

2.2 METAL FINISHES

A. Variations in finishes are unacceptable in the same piece. Variations in finishes of adjoining components are acceptable if they are within the range of approved Samples and if they can be and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1.

B. Install luminaires level, plumb, and square with ceilings and walls unless otherwise indicated.

C. Install lamps in each luminaire.

D. Supports: Sized and rated for luminaire weight.

E. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables" for wiring connections.

F. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 16553 "Identification for Electrical Systems."

G. All site lighting pole lights shall be installed to maintain 36” clear from back of curb to edge of concrete pole-base. Field verify final locations with final civil plan and edge of parking lots.

3.2 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
2. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.

B. Luminaire will be considered defective if it does not pass operation tests and inspections.

C. Prepare test and inspection reports.

END OF SECTION 265119

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PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

INTRODUCTORY INFORMATION

PROCUREMENT REQUIREMENTS & CONTRACTING REQUIREMENTS

SPECIFICATIONS GROUP

GENERAL REQUIREMENTS SUBGROUP

DIVISION 01 - GENERAL REQUIREMENTS

FACILITY CONSTRUCTION SUBGROUP

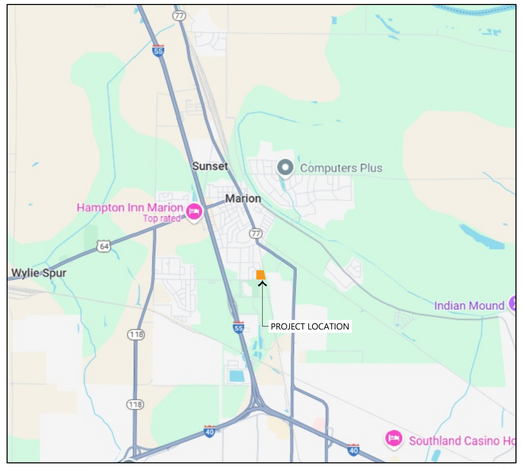
DIVISION 02 - EXISTING CONDITIONS

FACILITY SERVICES SUBGROUP

END OF TABLE OF CONTENTS

COLONIAL PARK IMPROVEMENTS

ADDRESS: 395 COLONIAL DRIVE, MARION, AR 72364
PHASE: 100% CONSTRUCTION DRAWINGS
DATE: MAY 16, 2025



VICINITY MAP
NOT TO SCALE

NORTH

AERIAL MAP
NOT TO SCALE

NORTH

OWNER

CITY OF MARION PARKS AND RECREATION
ANDY RAWLS
3821 COMPLEX DRIVE
MARION, AR 72364
PARKS@MARIONARKANSAS.ORG
870.739.5424

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MSMITH@ECOLOGICALDG.COM
870.588.6426

CIVIL ENGINEER

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JD BORGENSON, P.E.
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LITTLE ROCK, AR 72201
JDBORGENSON@ECOLOGICALDG.COM
903.293.0622

SURVEYOR

RIDGE SURVEYING & CONSULTING, PLLC.
JASON D. BEARD
404 CREATH AVE., SUITE B
JONESBORO, AR 72401
JBEARD@RIDGESURVEYING.NET
870.203.9940

UTILITY AND CITY CONTACTS

Entergy: www.entergy-arkansas.com

Summit Utilities: www.summitutilities.com

Fire Dept: City of Marion, Woody Wheeless, Fire Chief, 364 E Military Rd, Marion, AR 72364, (870) 739-4127, fire@marionarkansas.org

Water & Sewer Dept: City of Marion, Scott Marshall, 310 Judge Smith Dr. Marion, AR 72364, (870) 739-3073, waterdeot@marionarkansas.org

Planning and Community Development Department: City of Marion, Freddie Thorne III, 31 E Military Rd, Marion, AR 72364, (870) 739-5410, planning@marionarkansas.org

Public Works Department: City of Marion, Steve Johnson, 5001 E Hardin Road, Marion, AR 72364, (870) 739-5419

PROJECT NOTES (CITY / PROJECT SPECIFIC NOTES)

1. THE CITY OF MARION STREET STANDARDS, DRAINAGE CRITERIA MANUAL, SUBDIVISION ORDINANCE, WATER, SEWER, ELECTRIC UTILITY SPECIFICATIONS, AND STATE CODE SHALL GOVERN THESE PLANS. IF THERE ARE DISCREPANCIES IN THE PLANS OR INFORMATION CONTAINED WITHIN, CITY OF MARION ORDINANCES, STANDARDS, AND SPECIFICATIONS SHALL RULE, UNLESS, APPROVED IN WRITING BY THE CITY ENGINEER.

1. TO SCHEDULE AN INSPECTION OR TEST WITH THE CITY OF MARION ENGINEERING DEPARTMENT, INSPECTIONS MUST BE CALLED IN BY THE ENGINEER OF RECORD 24 HOURS IN ADVANCE BEFORE 10AM FOR AN INSPECTION THE FOLLOWING DAY.

2. THE ENGINEER OF RECORD MUST CERTIFY THE SITE AND THE PROJECT MUST PASS A DEVELOPMENT FINAL SITE INSPECTION BEFORE REQUESTING A BUILDING FINAL INSPECTION.

3. THE ENGINEER OF RECORD SHALL COORDINATE AND SCHEDULE A PRE-PAVE PRECON WITH THE ENGINEERING DEPARTMENT AND CONTRACTOR BEFORE THE PAVING OF ANY PUBLIC STREET OR PUBLIC ALLEY.

PROPERTY DESCRIPTION

BLOCK 5, BAIONI SUBDIVISION, EIGHTH ADDITION, TO THE CITY OF MARION, CRITTENDEN COUNTY, ARKANSAS, AS SHOWN PLAT RECORDED IN BOOK 3, PAGE 316, SUBJECT TO ALL RIGHTS-OF-WAY AND EASEMENTS OF RECORD.

FLOOD DATA

THE SUBJECT PROPERTY LIES OUTSIDE THE 100-YEAR SPECIAL FLOOD HAZARD ZONE, AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP PANEL NO. 05035C0330E, EFFECTIVE DATE MAY 03, 2011. THIS ENTIRE PANEL IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE, CHECK WITH YOUR LOCAL COMMUNITY TO OBTAIN MORE INFORMATION.

SHEET INDEX

SITE SUMMARY

ZONING:
MEDIUM DENSITY MULTIPLE-FAMILY RESIDENTIAL (R-4)
NEIGHBORHOOD AND QUIET BUSINESS DISTRICT (C-1)

USE: PARK

AREA:
6.59 AC

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www.ecologicaldg.com
phone: 501 378 0200
LITTLE ROCK | ROGERS | WYNNE

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 18017 JD BORGENSON 5.16.2025

CERTIFICATE OF AUTHORIZATION Ecological Design Group, Inc. No. 2511 ARKANSAS

LICENSED LANDSCAPE ARCHITECT MARTIN SMITH License Number 5038 STATE OF ARKANSAS 5.16.25

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COLONIAL PARK IMPROVEMENTS
Marion, Arkansas

EDG PROJECT NO. 25-005
DATE 2025.05.16

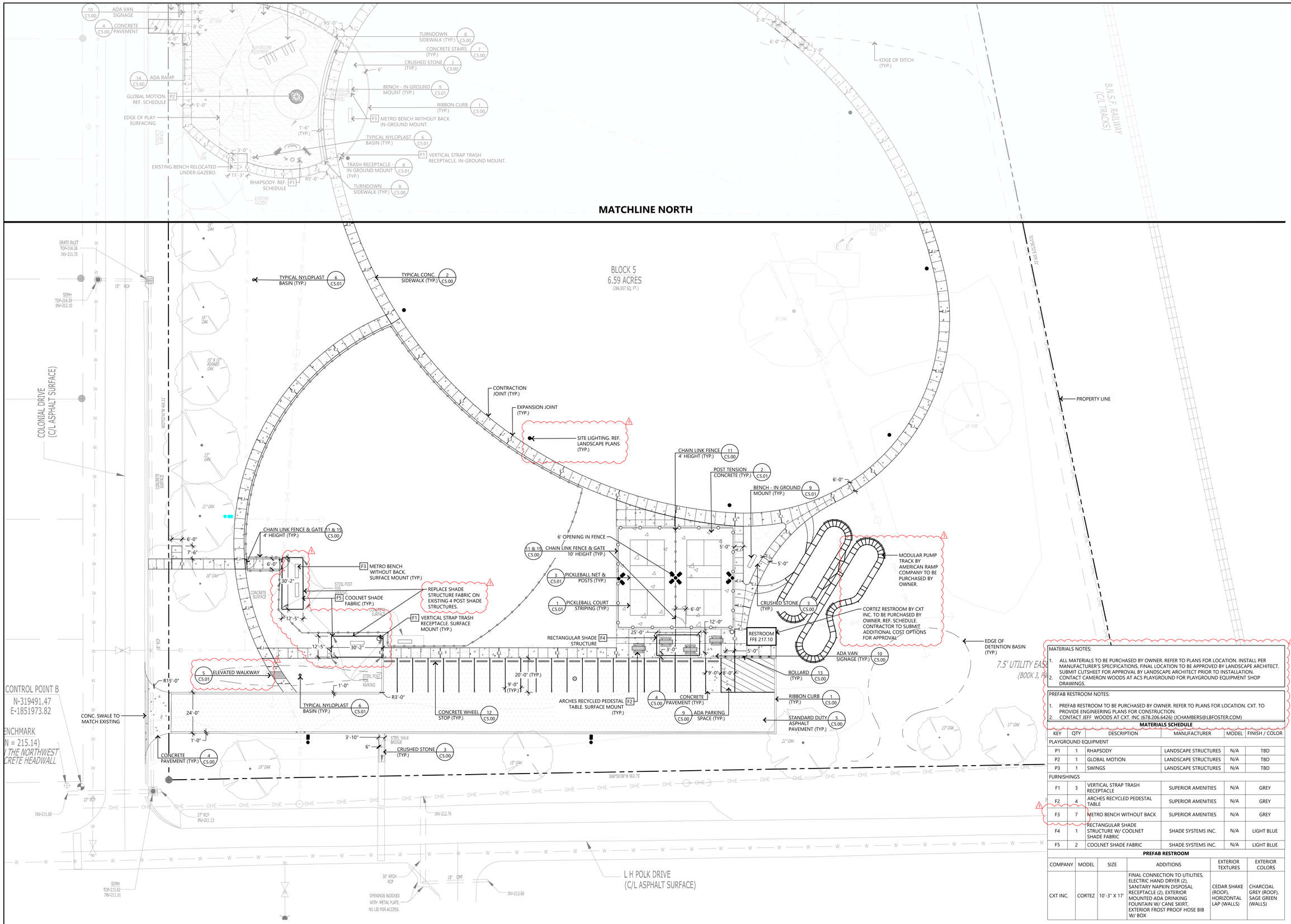
REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE CONSTRUCTION DOCUMENTS

TITLE COVER SHEET

SHEET NO. C0.00



1 SITE PLAN - SOUTH

SCALE: 1" = 20'-0"

NORTH

0' 20' 40' 80'

MATERIALS NOTES:

1. ALL MATERIALS TO BE PURCHASED BY OWNER. REFER TO PLANS FOR LOCATION. INSTALL PER MANUFACTURER'S SPECIFICATIONS. FINAL LOCATION TO BE APPROVED BY LANDSCAPE ARCHITECT. SUBMIT CUTSHEET FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. CONTACT CAMERON WOODS AT ACS PLAYGROUND FOR PLAYGROUND EQUIPMENT SHOP DRAWINGS.

PREFAB RESTROOM NOTES:

1. PREFAB RESTROOM TO BE PURCHASED BY OWNER. REFER TO PLANS FOR LOCATION. CXT. TO PROVIDE ENGINEERING PLANS FOR CONSTRUCTION.
2. CONTACT JEFF WOODS AT CXT. INC (678.206.6426) (JCHAMBERS@LBFOSTER.COM)

MATERIALS SCHEDULE

KEY	QTY	DESCRIPTION	MANUFACTURER	MODEL	FINISH / COLOR
PLAYGROUND EQUIPMENT					
P1	1	RHAPSODY	LANDSCAPE STRUCTURES	N/A	TBD
P2	1	GLOBAL MOTION	LANDSCAPE STRUCTURES	N/A	TBD
P3	1	SWINGS	LANDSCAPE STRUCTURES	N/A	TBD
FURNISHINGS					
F1	3	VERTICAL STRAP TRASH RECEPTACLE	SUPERIOR AMENITIES	N/A	GREY
F2	4	ARCHES RECYCLED PEDESTAL TABLE	SUPERIOR AMENITIES	N/A	GREY
F3	7	METRO BENCH WITHOUT BACK	SUPERIOR AMENITIES	N/A	GREY
F4	1	RECTANGULAR SHADE STRUCTURE W/ COOLNET SHADE FABRIC	SHADE SYSTEMS INC.	N/A	LIGHT BLUE
F5	2	COOLNET SHADE FABRIC	SHADE SYSTEMS INC.	N/A	LIGHT BLUE

PREFAB RESTROOM

COMPANY	MODEL	SIZE	ADDITIONS	EXTERIOR TEXTURES	EXTERIOR COLORS
CXT INC.	CORTEZ	10'-3" X 17'	FINAL CONNECTION TO UTILITIES, ELECTRIC HAND DRYER (2), SANITARY NAPKIN DISPOSAL RECEPTACLE (2), EXTERIOR MOUNTED ADA DRINKING FOUNTAIN W/ CANE SKIRT, EXTERIOR FROST PROOF HOSE BIB W/ BOX	CEDAR SHAKE (ROOF), HORIZONTAL LAP (WALLS)	CHARCOAL GREY (ROOF), SAGE GREEN (WALLS)

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Marion, Arkansas

EDG PROJECT NO. 25-005

DATE 2025.05.16

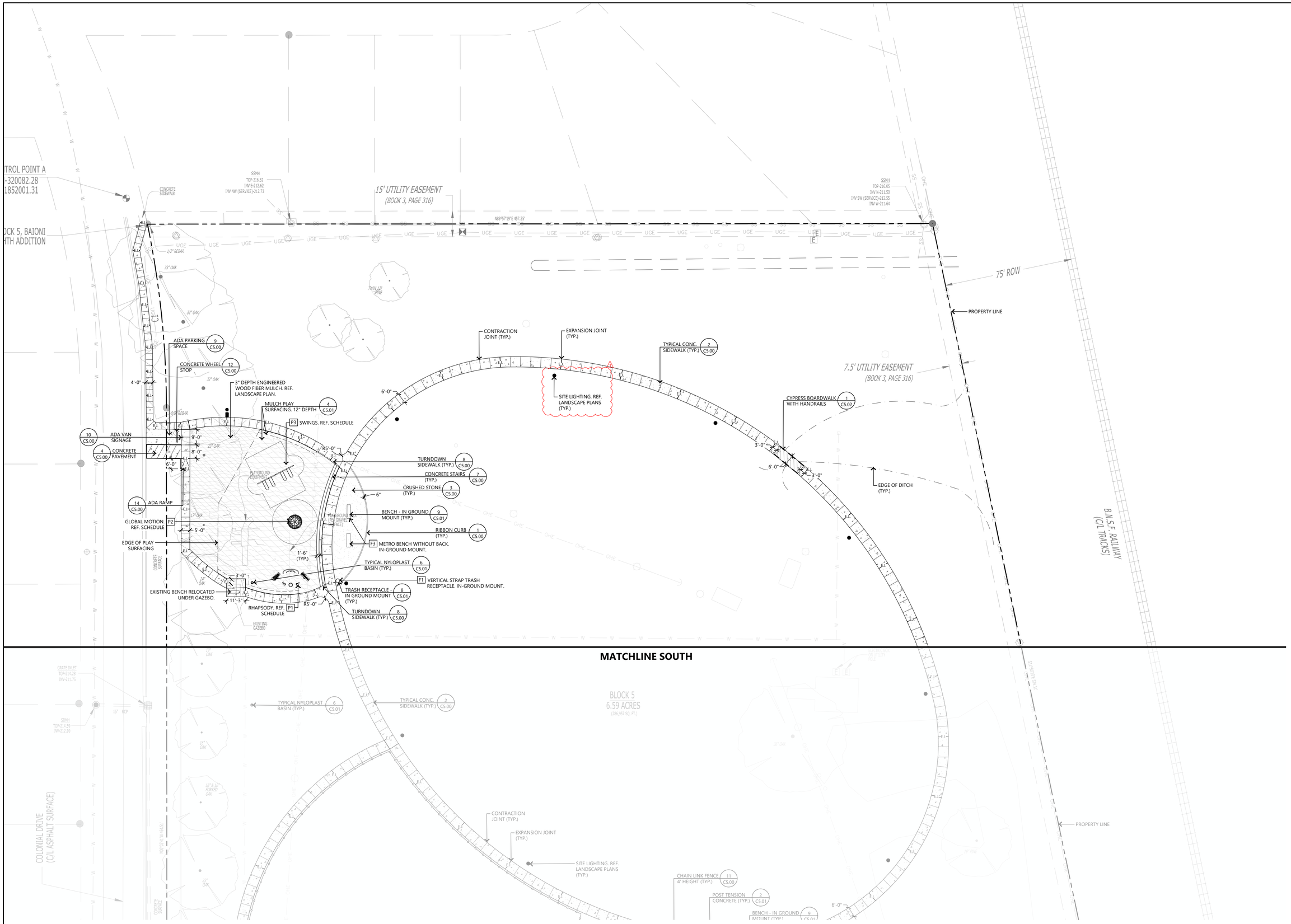
REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE CONSTRUCTION DOCUMENTS

TITLE SITE PLAN - SOUTH

SHEET NO. C1.00



1 SITE PLAN - NORTH

SCALE: 1" = 20'-0"

NORTH

0' 20' 40' 80'

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Marion, Arkansas

EDG PROJECT NO.	25-005
DATE	2025.05.16

REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE	CONSTRUCTION DOCUMENTS
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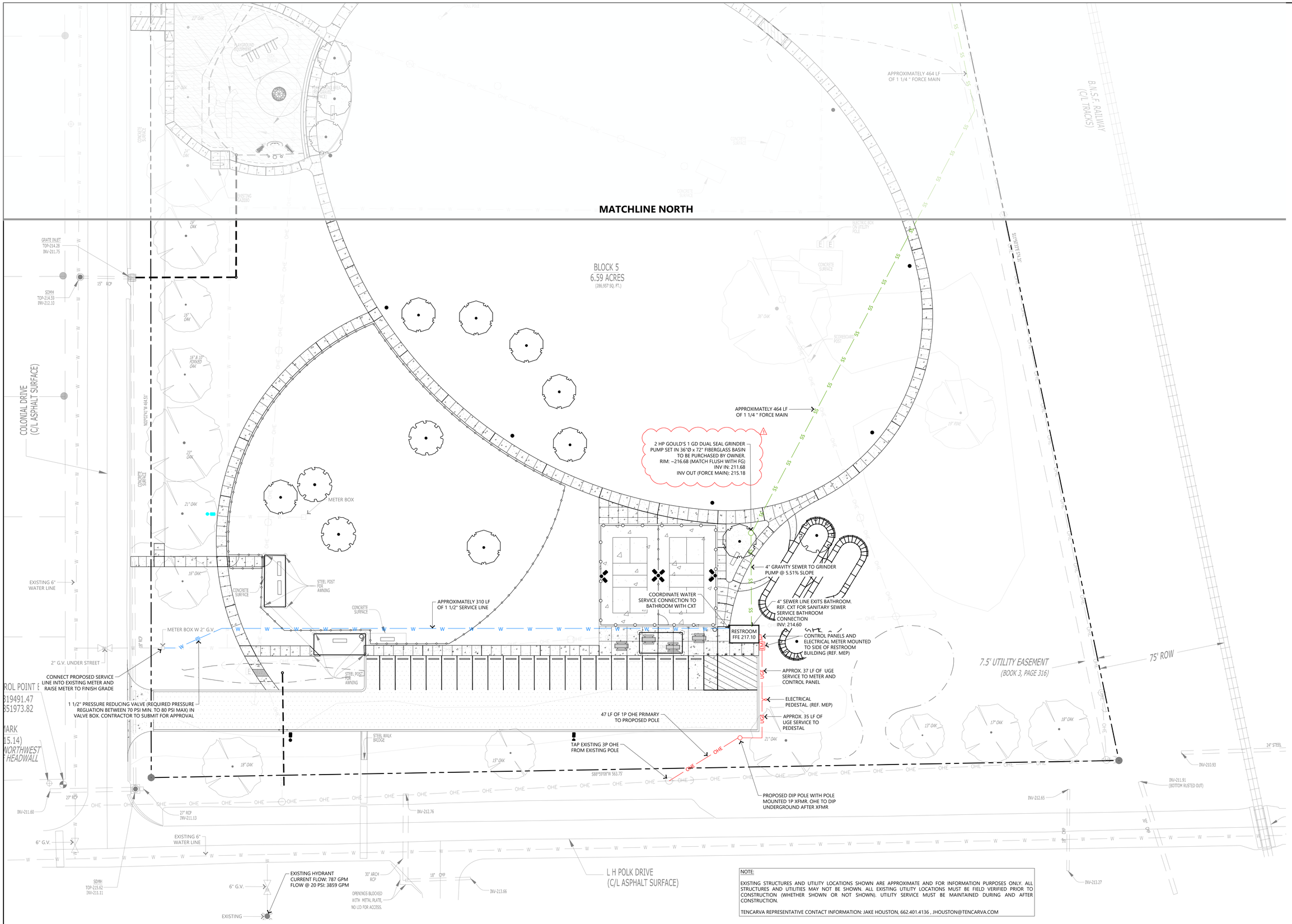
SHEET NO.	C1.01



NOTE:

EXISTING STRUCTURES AND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND FOR INFORMATION PURPOSES ONLY. ALL STRUCTURES AND UTILITIES MAY NOT BE SHOWN. ALL EXISTING UTILITY LOCATIONS MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION (WHETHER SHOWN OR NOT SHOWN). UTILITY SERVICE MUST BE MAINTAINED DURING AND AFTER CONSTRUCTION.

TENCARVA REPRESENTATIVE CONTACT INFORMATION: JAKE HOUSTON, 662.401.4136 , JHOUSTON@TENCARVA.COM

1 UTILITY PLAN - SOUTH

SCALE: 1" = 20'-0"

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EDG PROJECT NO.	25-005
DATE	2025.05.16

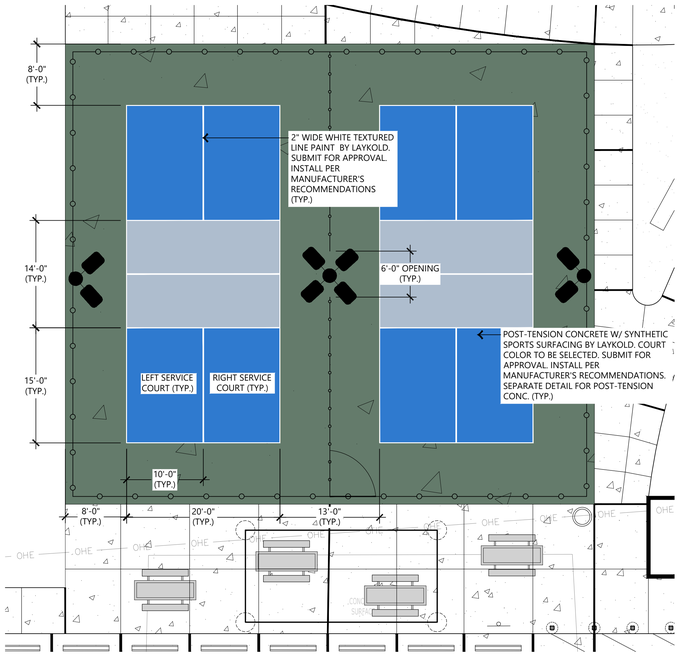
REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE: CONSTRUCTION DOCUMENTS

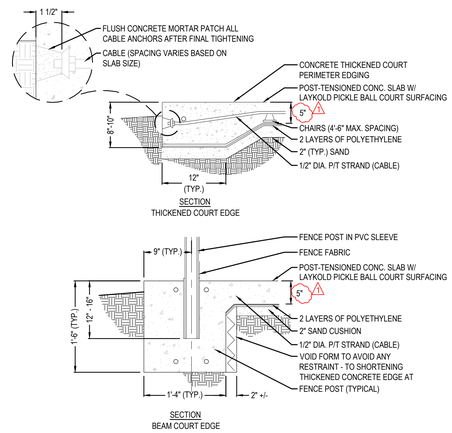
TITLE: UTILITY PLAN - SOUTH

SHEET NO. C2.00



1 PICKLEBALL COURT STRIPING

SCALE: N.T.S.



2 POST TENSION CONCRETE

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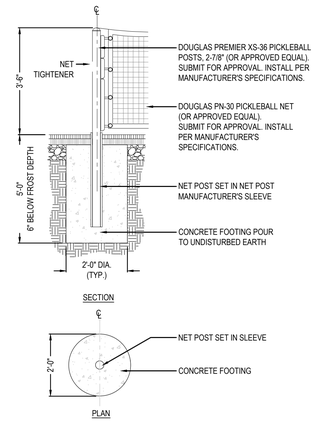

3 PICKLEBALL NET POST

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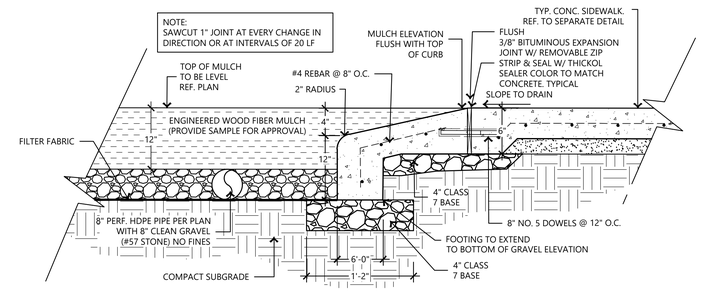

4 MULCH PLAY SURFACING

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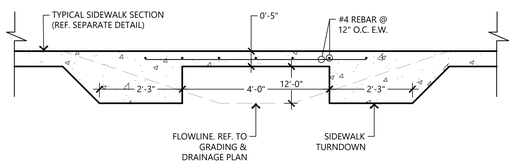
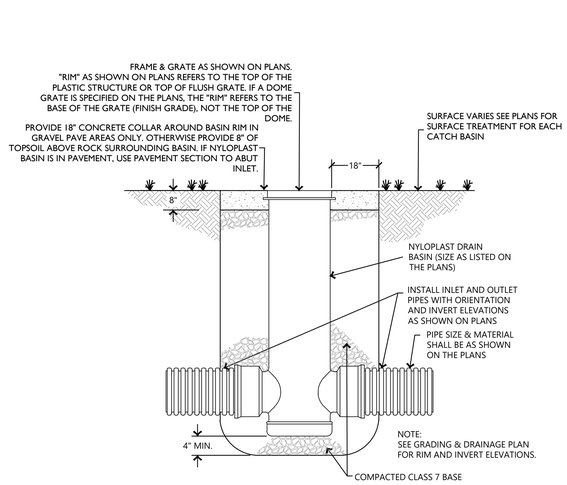


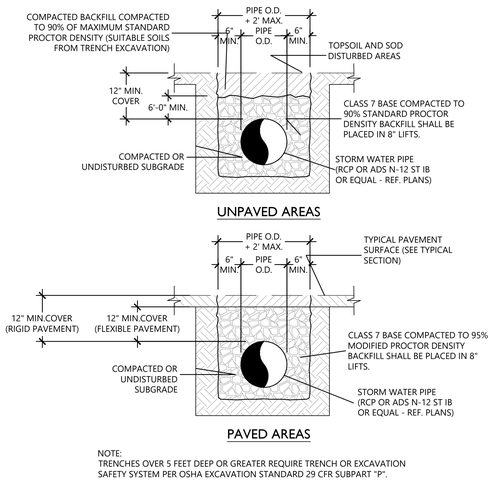
5 ELEVATED WALKWAY

SCALE: N.T.S.



6 TYPICAL NYLOPLAST BASIN

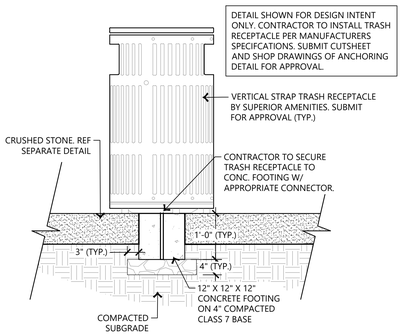
SCALE: N.T.S.



NOTE:
TRENCHES OVER 5 FEET DEEP OR GREATER REQUIRE TRENCH OR EXCAVATION SAFETY SYSTEM PER OSHA EXCAVATION STANDARD 29 CFR SUBPART "P".

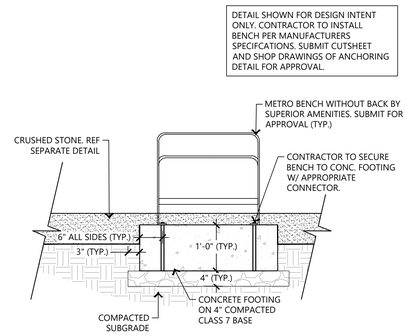
7 TYPICAL STORMWATER BEDDING DETAILS

SCALE: N.T.S.



8 TRASH RECEPTACLE - IN GROUND MOUNT

SCALE: N.T.S.



9 BENCH - IN GROUND MOUNT

SCALE: N.T.S.

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COLONIAL PARK IMPROVEMENTS

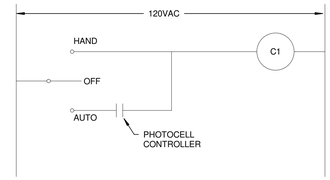
Marion, Arkansas

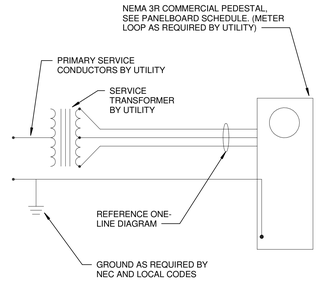
EDG PROJECT NO.	25-005
DATE	2025.05.16

REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE	CONSTRUCTION DOCUMENTS
TITLE	SITE DETAILS
SHEET NO.	C5.01





2 TYPICAL POWER SCHEMATIC

NOT TO SCALE

POWER AND LIGHTING LEGEND

ABBREVIATION OR SYMBOL	DESCRIPTION
FIXTURE DESIGNATION	
	2x4 LAY-IN OR SURFACE MOUNTED FIXTURE
	2x4 LAY-IN OR SURFACE MOUNTED FIXTURE; SHADING INDICATES EMERGENCY POWERED BATTERY
	2x2 LAY-IN OR SURFACE MOUNTED FIXTURE
	2x2 LAY-IN OR SURFACE MOUNTED FIXTURE; SHADING INDICATES EMERGENCY POWERED BATTERY
	SURFACE OR STRIP FIXTURE
	RECESSED STRIP FIXTURE; SHADING INDICATES EMERGENCY POWERED BATTERY
	RECESSED DOWNLIGHT
	RECESSED DOWNLIGHT; SHADING INDICATES EMERGENCY POWERED BATTERY
	WALL-MOUNTED LINEAR FIXTURE
	DOWNLIGHT FIXTURE
	DOWNLIGHT FIXTURE; SHADING INDICATES EMERGENCY POWERED BATTERY
	WALL-MOUNTED FIXTURE
	EXIT SIGN; LED TYPE. DARKENED AREA INDICATES FACE. ARROWS INDICATE DIRECTION OF EGRESS
	RECESSED ELECTRICAL PANEL WITH REQUIRED CLEARANCE
	SURFACE MOUNTED ELECTRICAL PANEL WITH REQUIRED CLEARANCE
	COMBINATION STARTER DISCONNECT SWITCH
	NON FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MOTOR STARTER
M	ELECTRIC MOTOR, HORSEPOWER AS SHOWN.
J	JUNCTION BOX
J XYZ	SPECIALTY JUNCTION BOX WITH DESIGNATION "XYZ". REFER TO JBOX ABBREVIATION LEGEND.

POWER -- J-BOX ABBREVIATION SCHEDULE

DATA DEVICES

A B	TELEPHONE OUTLET; ABOVE COUNTER, & FIREMAN'S
A C	DATA OUTLET; ABOVE COUNTER & CEILING MOUNTED
A	COMBINATION DATA/TELEPHONE OUTLET & COMBINATION DATA/TELEPHONE OUTLET ABOVE COUNTER
TV48"	TELEVISION OUTLET WITH HEIGHT A.F.F. DESIGNATION

FLOOR BOXES

FLOOR/WALL BOX WITH DESIGNATION "XYZ". REFER TO FLOOR/WALL BOX ABBREVIATION SCHEDULE.

XYZ

(1) (2) (4) (3)
(1) DUPLEX RECEPTACLE
(2) GFI DUPLEX RECEPTACLE
(3) QUADRUPLEX RECEPTACLE
(4) GFI QUADRUPLEX RECEPTACLE

(6) (7) AV (8) (9)
(6) TELEPHONE OUTLET
(7) DATA OUTLET
(8) COMBO TELE/DATA OUTLET
(9) AUDIO VISUAL

POWER -- FLOOR/WALL BOX ABBREVIATION SCHEDULE

DUPLEX	QUADRUPLEX	
		STANDARD
		ABOVE COUNTER
		GFCI
		GFCI ABOVE COUNTER
		WEATHER PROOF
		CEILING MOUNT

ABC	MULTI POLE RECEPTACLE. REFER TO RECEPTACLE ABBREVIATION LEGEND FOR DETAILS.
XYZ	SIMPLEX RECEPTACLE. REFER TO RECEPTACLE ABBREVIATION LEGEND FOR DETAILS.

SPECIALTY RECEPTACLES WITH DESIGNATION "XYZ", "ABC", etc. REFER TO RECEPTACLE ABBREVIATION LEGEND BELOW.

POWER -- RECEPTACLE ABBREVIATION LEGEND

ROOM CONTROLLERS / POWER PACKS

P XX	SPECIALTY POWER PACK WITH DESIGNATION "XX", REFER TO ABBREVIATION LEGEND BELOW.
R XX	SPECIALTY ROOM CONTROLLER WITH DESIGNATION "XX", REFER TO ABBREVIATION LEGEND BELOW.

LIGHTING -- ROOM CONTROLLER ABBREVIATION SCHEDULE

SWITCHES

S	SINGLE POLE LIGHT SWITCH
S_M	PADLOCKABLE HP RATED SWITCH
S_X	SPECIALTY SWITCH. FOR "X" DESIGNATION, SEE LIGHTING SWITCH ABBREVIATION SCHEDULE BELOW.

LIGHTING -- SWITCH ABBREVIATION SCHEDULE

SENSORS

XX	SPECIALTY CEILING MOUNT SENSOR WITH DESIGNATION "XX", REFER TO ABBREVIATION LEGEND BELOW.
XX	SPECIALTY CORNER MOUNT SENSOR WITH DESIGNATION "XX", REFER TO ABBREVIATION LEGEND BELOW.

LIGHTING -- SENSOR ABBREVIATION SCHEDULE

ELECTRICAL GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL LOCAL CODES, AUTHORITIES HAVING JURISDICTION, DRAWINGS AND SPECIFICATIONS. IF DISCREPANCIES ARE FOUND - THE MOST STRINGENT REQUIREMENT SHALL GOVERN WORK.
2. REFER TO SPECIFICATIONS AND PROJECT MANUAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
3. REFER TO ALL PROJECT DRAWINGS FOR DETAILS OF CONSTRUCTION AND INSTALLATION REQUIREMENTS.
4. PRIOR TO BID, CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE REQUIREMENTS OF THESE NOTES AS WELL AS OTHER NOTES SHOWN ON THE CONTRACT DOCUMENTS.
5. THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIED REFERENCE PRODUCTS. THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES. IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS ARE BID OR SUBMITTED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL DIFFERENCES PRIOR TO BID. ALL COSTS OF ALL TRADES ASSOCIATED WITH THE SUBSTITUTION SHALL BE INCLUDED IN THE BID.
6. REFER TO ELECTRICAL SCHEDULES AND SPECIFICATIONS FOR BASIS OF DESIGN, ACCEPTABLE MANUFACTURERS, AND MODELS OF ELECTRICAL FIXTURES AND EQUIPMENT.
7. ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, DEVICE, OPTION, FITTING, OR COMPONENT.
8. CONTRACTOR SHALL NOT SCALE DRAWINGS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY THE CONTRACT DOCUMENTS.
9. COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.
10. ALL ELECTRICAL CONDUIT SHALL BE ¾" OR GREATER.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES. REFER TO ALL CONSTRUCTION DOCUMENTS FOR COMPLETE INFORMATION PRIOR TO BID.
12. NO ELECTRICAL SYSTEMS SHALL BE SUSPENDED, HUNG, OR SUPPORTED FROM DUCTWORK OR PIPING.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR FLASHING AND SEALING OF ALL ROOF PENETRATIONS AIR AND WATER TIGHT.
14. CLOSELY COORDINATE FINAL LOCATIONS OF INSTALLED EQUIPMENT TO ACHIEVE THE GREATEST ACCESSIBILITY FOR MAINTENANCE.
15. CONTRACTOR SHALL VISIT THE SITE TO ESTABLISH THE EXISTING CONDITIONS PRIOR TO CONDUIT OR ELECTRICAL EQUIPMENT FABRICATION. SYSTEMS SHALL BE ERECTED USING FIELD MEASUREMENTS FOR COORDINATION WITH THE EXISTING EQUIPMENT, STRUCTURE, FIRE PROTECTION AND ELECTRICAL.
16. ALL EQUIPMENT, DEVICES, AND FIXTURES SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
17. EXPOSED CONDUIT AND MC CABLE SHALL BE FURNISHED SUITABLE FOR PAINTING, AND SHALL BE PAINTED AS REQUIRED BY ARCHITECTURAL SPECIFICATIONS.
18. PROVIDE ALL FITTINGS, COUPLINGS, AND OTHER ACCESSORIES NEEDED TO COMPLETE CONNECTIONS AND PROVIDE FOR PROPER OPERATION OF ELECTRICAL FIXTURES AND ELECTRICAL EQUIPMENT.
19. REFER TO ELECTRICAL SPECIFICATIONS FOR CONDUIT MATERIALS AND INSTALLATION REQUIREMENTS.
20. FIRE STOP ALL CONDUIT PENETRATIONS THROUGH RATED WALLS. REFER TO SPECIFICATIONS.
21. REFER TO ARCHITECTURAL PLANS FOR CEILING GRILL AND LIGHT FIXTURE LOCATIONS, FOR CEILING TYPE, AND FOR MOUNTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE AND INSTALL ALL LIGHTS WITH MOUNTING DESIGNED FOR MOUNTING SURFACE TYPE.
22. PROVIDE CONCRETE PADS FOR ALL GROUND MOUNTED EQUIPMENT.
23. REPLACE ALL ARCHITECTURAL FEATURES REMOVED OR DAMAGED DURING THE COURSE OF THE WORK.
24. CONTRACTOR SHALL PATCH ALL WALLS, FLOORS, AND CEILINGS TO MATCH NEW/EXISTING FOR OPENINGS CREATED BY INSTALLATION OF EQUIPMENT AND ELECTRICAL SERVICE PENETRATIONS.
25. ALL HVAC WITH ELECTRICAL REQUIREMENTS SHALL BE INSTALLED WITH ELECTRICAL INFRASTRUCTURE NECESSARY TO PROVIDE A FULLY FUNCTIONING SYSTEM. IF NOT SPECIFICALLY SHOWN ON ELECTRICAL SCHEDULE, HVAC FIXTURES REQUIRING ELECTRICAL SERVICE SHALL BE FED FROM BREAKER OF ADEQUATE CAPACITY.
26. REFER TO STRUCTURAL ENGINEERING CONTRACT FOR PROJECT SEISMIC DESIGN CRITERIA. PROVIDE VIBRATION ISOLATION AND SEISMIC RESTRAINT FOR EQUIPMENT AND CONDUIT AS REQUIRED.

COMMUNICATIONS DEVICES

I	INTERCOM STATION
I_M	MASTER INTERCOM STATION
C	CLOCK
C_D	CLOCK, DUAL SIDED
C_{WG}	CLOCK, WITH WIREGUARD
H	HORN SPEAKER
H WP	HORN SPEAKER - WEATHERPROOF
P	PAGING SPEAKER
C	CAMERA WITH PAN, TILT, & ZOOM
C WP	CAMERA - WEATHERPROOF WITH PAN, TILT, & ZOOM
J	SPECIAL SYSTEMS JUNCTION BOX ABOVE CEILING. ROUTE 1" C WITH PULL STRING TO DATA/ELECTRICAL ROOM.
J_V J_A	(V) VIDEO, (A) ALARM/ACCESS
A	ACCESS CONTROL - PROVIDE ACCESS CONTROL ROUGH-IN AT DOOR. REFER TO DETAILS FOR ACCESS CONTROL ROUGH-IN REQUIREMENTS.
D	MAGNETIC DOOR HOLDER
F	FIRE ALARM PULL STATION
F	FIRE ALARM COMBINATION HORN/STROBE DEVICE
F	FIRE ALARM COMBINATION SPEAKER/STROBE DEVICE
S	FIRE ALARM STROBE DEVICE
F	FIRE ALARM ZAM DEVICE; IAM (I), CONTROL (C), OR MONITOR MODULE (M)
Z_S Z_C Z_M	SMOKE DETECTOR
	HEAT DETECTOR
S_D	DUCT SMOKE DETECTOR
H	DUCT SMOKE DETECTOR WITH AUXILIARY CONTACTS
S_{DA}	
TS FS	TAMPER SWITCH / FLOW SWITCH
ATS	SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH
M	MANHOLE, HANDHOLE DESIGNATION REFER TO SCHEDULE.

GENERAL NOTES

1. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE UTILIZED ON THE PROJECTS.

WIRE TYPES

LIGHTING CONTROL CABLING

EQUIPMENT AND CONDUIT LINE TYPES

FURNISH + INSTALL NEW

EXISTING

DEMOLISH

UNDERGROUND CONNECT TO EXISTING

2 (3#8 + 1#8 + 1#10EG) 3/4" GRS

- CONDUIT TYPE (SEE ABBREVIATIONS) REFER TO SPECIFICATIONS IF NOT SHOWN
- CONDUIT SIZE
- GROUNDED (NEUTRAL) CONDUCTOR, NUMBER AND SIZE
- GROUNDED (NEUTRAL) CONDUCTOR, NUMBER AND SIZE
- PHASE (HOT) CONDUCTOR, NUMBER & SIZE
- NUMBER OF SETS

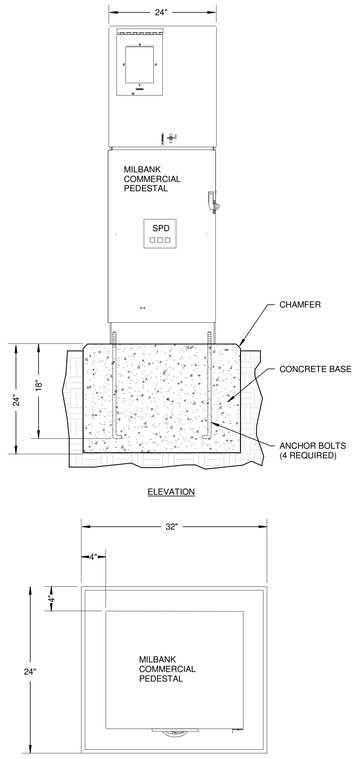
XX - ## HOME RUN TO PANEL. LETTER(S) INDICATE NAME OF PANEL, NUMBER(S) INDICATE CIRCUIT NUMBERS.

ONE LINE SYMBOLS

	CIRCUIT BREAKER, TRIP RATING SHOWN, 3-POLE UNLESS NOTED.
	FUSE, CURRENT LIMITING, RATING AS SHOWN.
480V = kVA 208V	TRANSFORMER, RATINGS AS SHOWN.
M 10 HP	ELECTRIC MOTOR, HORSEPOWER SHOWN.
	MOTOR STARTER, SIZE AS SHOWN OR REQUIRED. FVNR UNLESS NOTED.
SPD	SURGE PROTECTION DEVICE.
G *kW	GENERATOR
	GROUNDING ROD, 3/4" x 10' MINIMUM, COPPER CLAD.
	VARIABLE FREQUENCY DRIVE.
ATS-1 200A / 3P /BP	AUTOMATIC TRANSFER SWITCH

PEDESTAL NOTES:

1. PROVIDE PEDESTAL WITH ASTRONOMICAL TIMECLOCK FOR CONTROL.
2. PROVIDE WITH SQUARE D SDSA1175 SURGE PROTECTIVE DEVICE OR EQUAL.



1 TYPICAL PEDESTAL MOUNTING DETAIL

NOT TO SCALE

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STATE OF ALABAMA BROWN ENGINEERS LLC No. 13233 EXPIRES 12/31/2026

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 16666 SCOTT OSBORN OSBORN

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1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

MARION COLONIAL PARK

Marion, Arkansas

BE PROJECT NO.	EDG-003
DATE	2025.05.19

REVISIONS

Number	Date

PHASE	CONSTRUCTION DOCUMENTS
TITLE	ELECTRICAL POWER AND LIGHTING LEGEND
SHEET NO.	E1.0

DRAWING NAME: EDG-003 E1.0 DATE: 5/19/2025 4:33:28 PM

LIGHTING -- FIXTURE SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	DESCRIPTION	LAMPS TYPE	ELECTRICAL REQUIREMENTS WATTAGE	ELECTRICAL REQUIREMENTS VOLTAGE	COMMENTS
B1	SPITZER LIGHTING	BRD-42-26LC-U-CC-FD	LIT BOLLARD	LED	30 W	120 V	
L1A	SPITZER LIGHTING	PKA-220LC-120W-U-40K-T4-SSA-2-1 W/ POLE POL-S15FT4-11G-D-T-PKL2-TB-S2P	AREA LIGHT - TYPE IV - SINGLE	LED	120 W	120 V	
L2A	SPITZER LIGHTING	PKA-220LC-120W-U-40K-T4-SSA-4 W/ POLE POL-S15FT4-11G-D-T-(4)PKL2-TB-S2P	AREA LIGHT - TYPE IV - 4 @ 90 DEG	LED	480 W	120 V	
L2B	SPITZER LIGHTING	PKA-220LC-120W-U-40K-T4-SSA-2 W/ POLE POL-S15FT4-11G-D-T-(2)PKL2-TB-S2P	AREA LIGHT - TYPE IV - 2 @ 90 DEG	LED	240 W	120 V	

Branch Panel: L1P

Location:
Supply From:
Mounting: Surface
Enclosure: 3R

Volts: 120/240 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10000
Panel Rating: 150 A MCB

Notes:

CKT	Load Name	Trip	Poles	A	B	A	B	Poles	Trip	Load Name	CKT
1	LIGHTING	20 A	1	0.18		0.00		1	20 A	SPARE	2
3	LIGHTING	20 A	1		0.24		0.00	1	20 A	SPARE	4
5	LIGHTING	20 A	1	0.36		0.00		1	20 A	SPARE	6
7	LIGHTING	20 A	1		0.96		0.00	1	20 A	SPARE	8
9	SPACE	--	1	--		--		1	--	SPACE	10
11	SPACE	--	1		--		--	1	--	SPACE	12
13	SPACE	--	1	--		--		1	--	SPACE	14
15	PHOTOCELL CONTROL CIRCUIT	20 A	1		0.10		1.44	2	25 A	LIFT STATION	16
17	GFI DUPLEX OUTLET (LOCAL)	20 A	1	0.18		1.44					18
19	SURGE ARRESTOR DEVICE	60 A	2		0.00		6.00	2	80 A	BATHROOM	20
21				0.00		6.00					22
23	CONTACTOR C1 TO SWITCHED LOAD...	30 A	1		0.10		0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00		0.00		1	20 A	SPARE	26
27	SPARE	20 A	1		0.00		0.00	1	20 A	SPARE	28
29	SPARE	20 A	1	0.00		0.00		1	20 A	SPARE	30

Panel Totals

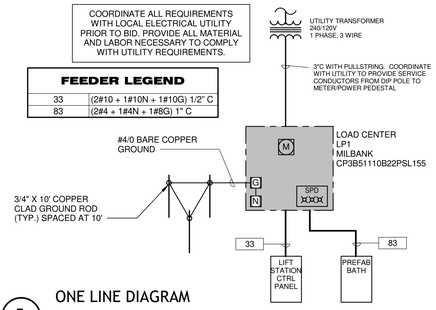
	PHASE A	PHASE B
Total Load:	8.16 kVA	8.84 kVA
Total Amps:	68.00 A	73.67 A
Total Conn. Load:	17.00 kVA	
Total Design Current:	111 A	

Notes:
POLES 1-8 TO BE CONTROLLED BY CONTACTOR

COORDINATE WITH PREFAB BATHROOM VENDOR FOR FINAL ELECTRICAL LOAD AND LOAD CENTER RATING. COORDINATE FEEDER BREAKER AND FEEDER WIRE AND UPDATE AS REQUIRED PER BUIDLING VENDOR INSTALLATION REQUIREMENTS.

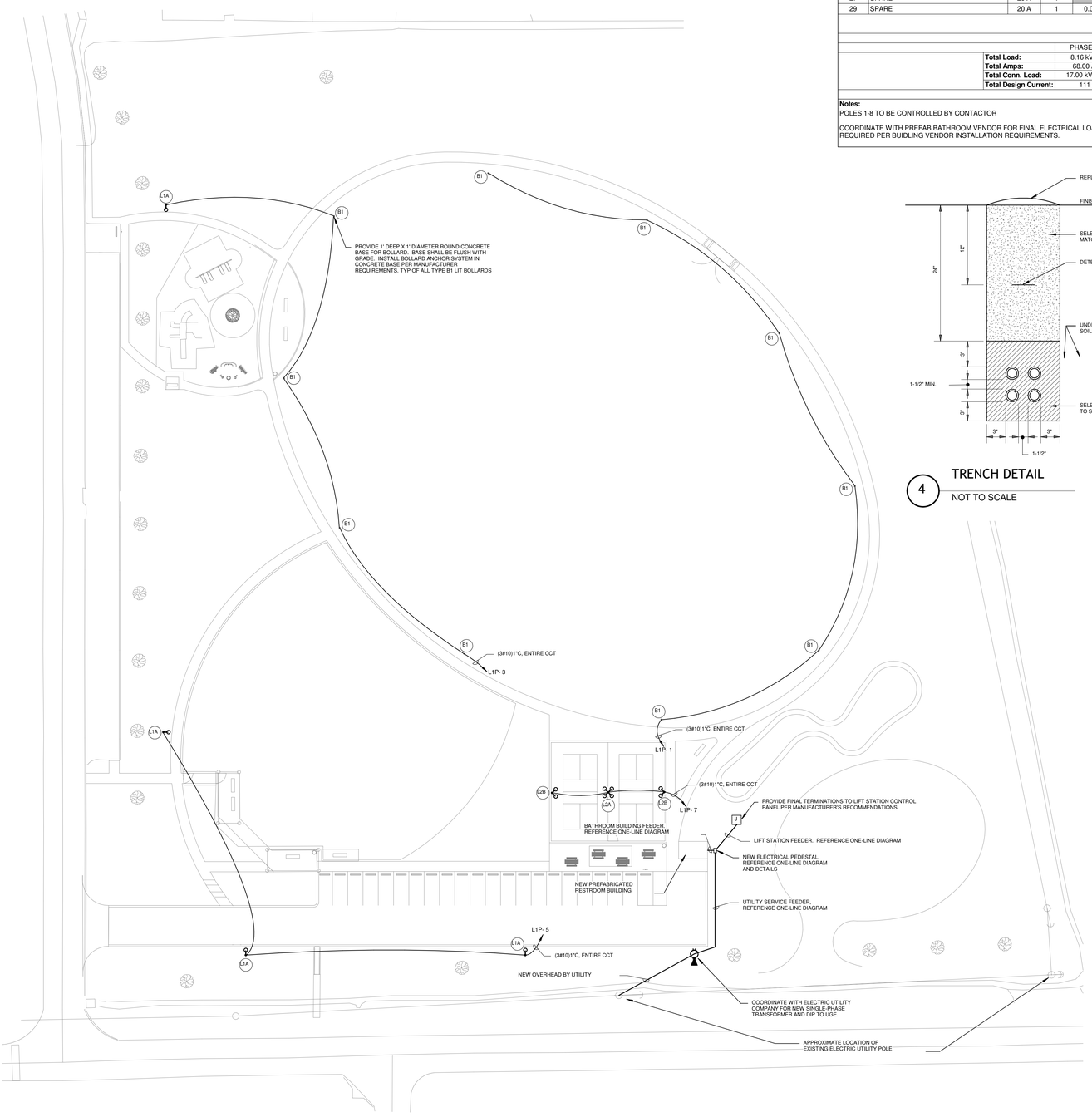
COORDINATE ALL REQUIREMENTS WITH LOCAL ELECTRICAL UTILITY PRIOR TO BID. PROVIDE ALL MATERIAL AND LABOR NECESSARY TO COMPLY WITH UTILITY REQUIREMENTS.

FEEDER LEGEND	
33	(2#10 + 1#10N + 1#10G) 1/2" C
83	(2#4 + 1#4N + 1#8G) 1" C



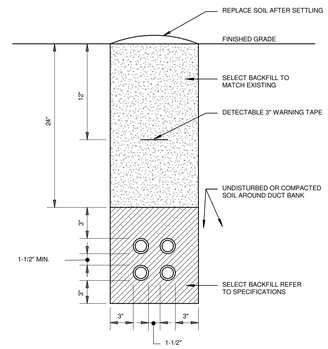
5 ONE LINE DIAGRAM

NOT TO SCALE



1 ELECTRICAL SITE PLAN

1" = 30'-0"

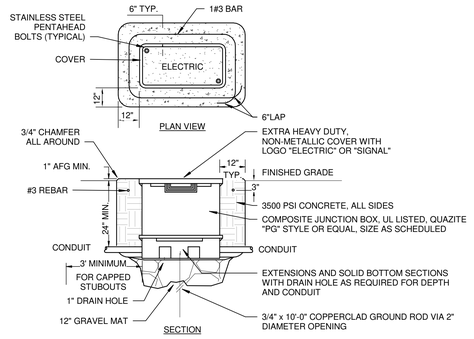


4 TRENCH DETAIL

NOT TO SCALE

ELECTRICAL DUCT NOTES:

1. CONTRACTOR SHALL STAKE THE DUCT INSTALLATION IN PLAN AND ELEVATION FOR NEW ELECTRICAL DUCTS TO AVOID EXISTING UTILITIES.
2. CONTRACTOR SHALL ADJUST THE DEPTH OF THE ELECTRICAL DUCTS AS REQUIRED TO MAINTAIN THE MINIMUM COVER REQUIREMENT INDICATED AND AVOID EXISTING UTILITIES.
3. SIMILAR CONSTRUCTION FOR OTHER DUCT SIZES. SEE DUCT BANK SCHEDULE FOR QUANTITY AND SIZES.
4. INSTALL DUCT CONDUIT SUPPORTS AT 5'-0" O.C. MAXIMUM SPACING (TYPICAL ALL DUCTS).
5. OFFSETS AND BENDS OVER 10 DEGREES AND ELBOWS IN PVC CONDUIT RUNS SHALL BE GALVANIZED RIGID STEEL CONDUIT.
6. NO PVC SHALL EMERGE FROM THE GROUND OR CONCRETE SLAB OR ENCASEMENT. PVC SHALL CONVERT TO GALVANIZED RIGID STEEL CONDUIT PRIOR TO ITS EMERGENCE.
7. INSTALL GROUND RODS AT ENDS OF ELECTRICAL DUCT OR CONNECT TO GROUND RING.
8. INSTALL CONDUCTORS AND CABLES AS NOTED ON DRAWING. INSTALL PULLWIRE IN ALL SPARE DUCTS.
9. MINIMUM COVER REQUIREMENT FOR DUCT BANKS UNDER ROADS, DRIVEWAYS AND PARKING LOTS SHALL BE 24".
10. MINIMUM COVER REQUIREMENTS FOR ELECTRICAL SECONDARY SERVICE DUCT BANKS SHALL BE 30".
11. MINIMUM COVER REQUIREMENTS FOR ELECTRICAL PRIMARY SERVICE DUCT BANKS SHALL BE 36".

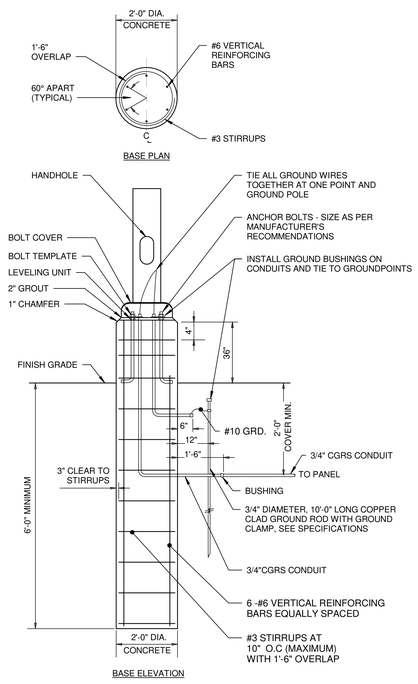


NOTES:

1. HANDHOLE AND EXTRA HEAVY-DUTY COVER SHALL BE DESIGNED FOR A TEST LOAD OF 33,750 LBS AND A DESIGN LOAD OF 22,500 LBS.
2. PROVIDE HANDHOLE WITH 2-2"C STUBOUTS IN EACH FACE, CAPPED WATERTIGHT.
3. HANDHOLE INTERIOR DIMENSIONS SHALL BE 30"L x 17"W x 28"D.
4. PROVIDE MINIMUM 3' SLACK CABLE LOOP FOR EACH CABLE.
5. COLOR CODE, TAG AND IDENTIFY ALL CABLES IN HANDHOLE.
6. EXACT LOCATION OF EACH HANDHOLE SHALL BE APPROVED BY THE OWNER AND ENGINEER.

6 HANDHOLE DETAIL

NOT TO SCALE

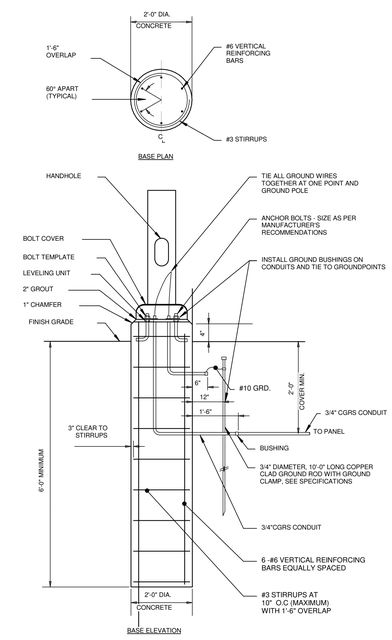


NOTES:

1. VERIFY BOLT CIRCLE AND MOUNTING WITH MANUFACTURER.
2. WHEN POURING CONCRETE DO NOT DROP CONCRETE THROUGH WATER IF WATER IS PRESENT IN HOLE.

2 PARKING LIGHT POLE BASE DETAIL

NOT TO SCALE



NOTES:

1. VERIFY BOLT CIRCLE AND MOUNTING WITH MANUFACTURER.
2. WHEN POURING CONCRETE DO NOT DROP CONCRETE THROUGH WATER IF WATER IS PRESENT IN HOLE.

3 COURT POLE BASE DETAIL

NOT TO SCALE

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1"

ONE INCH AT FULL SIZE IF NOT, ONE INCH SCALE ACCORDINGLY

MARION COLONIAL PARK

Marion, Arkansas

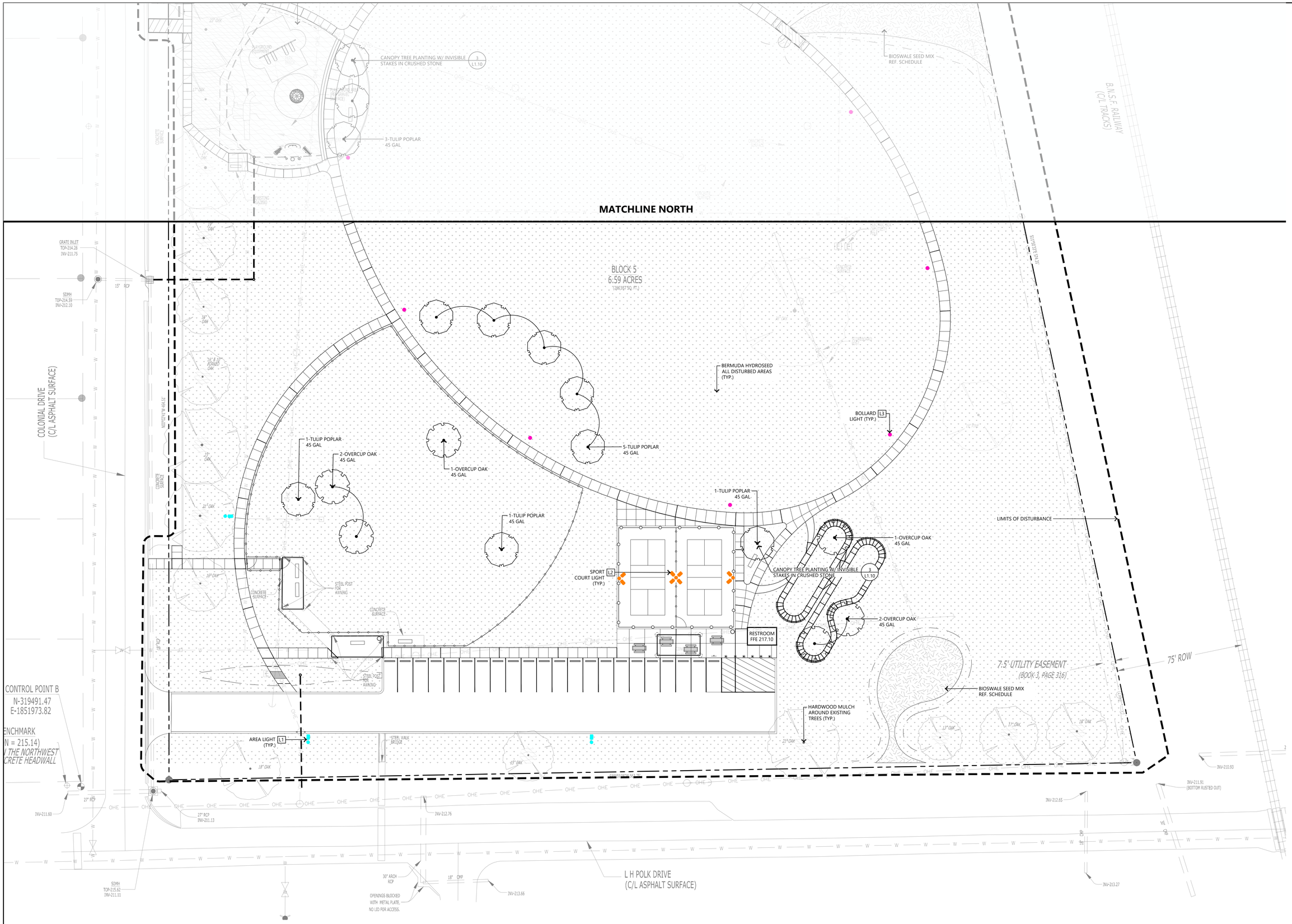
BE PROJECT NO.	EDG-003
DATE	2025.05.19

REVISIONS

Number	Date

PHASE	CONSTRUCTION DOCUMENTS
TITLE	ELECTRICAL SITE PLAN
SHEET NO.	E2.0

DRAWING NAME: EDG-003 E2.0 DATE: 5/19/2025 4:33:30 PM



1 LANDSCAPE PLAN - SOUTH

SCALE: 1" = 20'-0"

NORTH

0' 20' 40' 80'

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LICENSED LANDSCAPE ARCHITECT MARTIN SMITH License Number 5038 STATE OF ARKANSAS 5-16-25

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COLONIAL PARK IMPROVEMENTS

Marion, Arkansas

EDG PROJECT NO.	25-005
DATE	2025.05.16

REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE	CONSTRUCTION DOCUMENTS
TITLE	LANDSCAPE PLAN - SOUTH
SHEET NO.	L1.00

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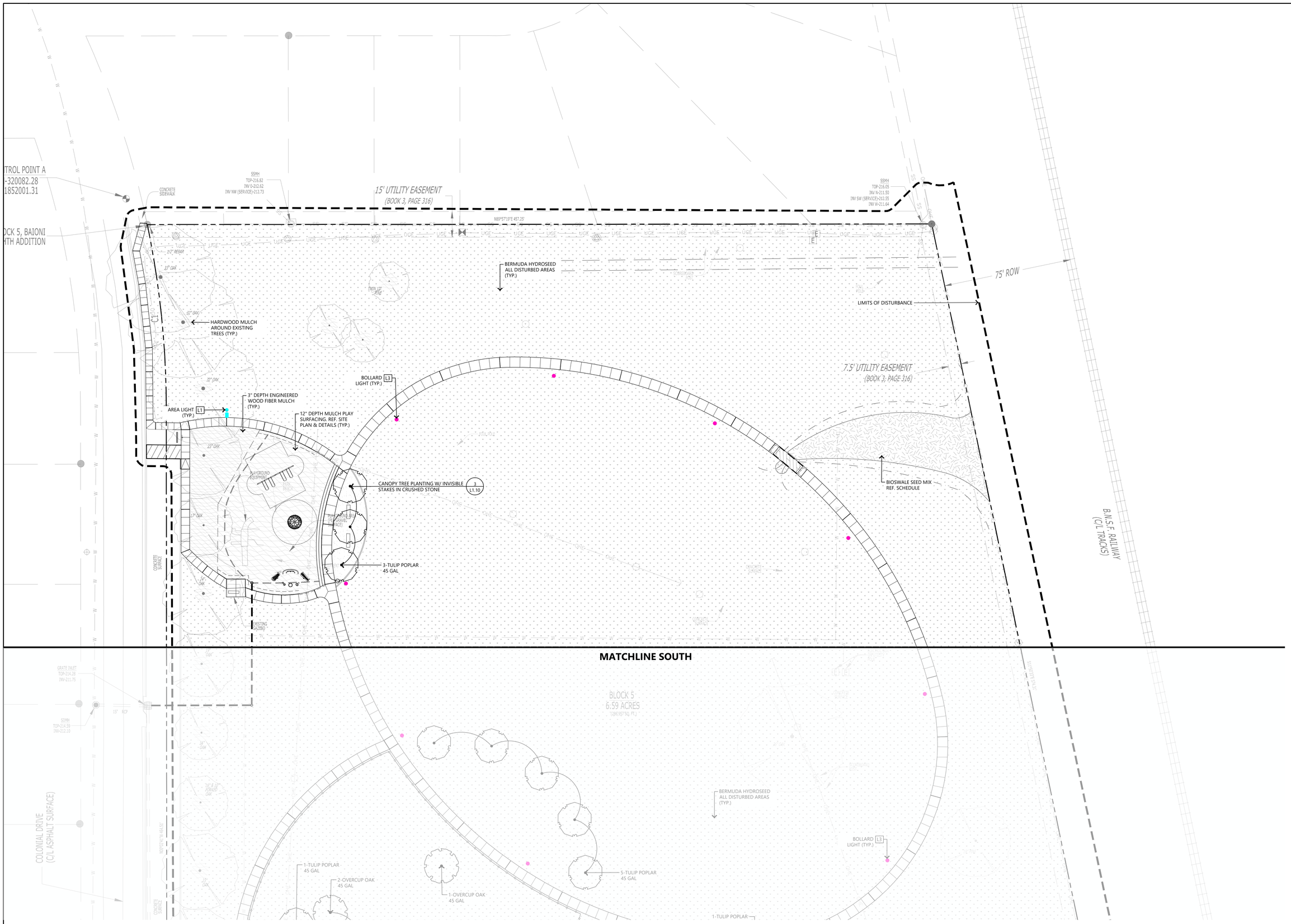


1 LANDSCAPE PLAN - NORTH

SCALE: 1" = 20'-0"

NORTH

0' 20' 40' 80'

COLONIAL PARK IMPROVEMENTS

Marion, Arkansas

EDG PROJECT NO.	25-005
DATE	2025.05.16

REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE	CONSTRUCTION DOCUMENTS
TITLE	LANDSCAPE PLAN - NORTH
SHEET NO.	L1.01

PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	CALIPER	CONTAINER	SPACING	HEIGHT & SPREAD	REMARKS
TREES								
	11	LIRIODENDRON TULIPIFERA	TULIP POPLAR	3" CAL	45 GAL	AS SHOWN	MIN 15' X 6'	SINGLE TRUNK 6' CLEAR. CONTAINER GROWN. SOURCE FROM HALE & HINES OR APPROVED EQUAL.
	6	QUERCUS LYRATA	OVERCUP OAK	3" CAL	45 GAL	AS SHOWN	MIN 15' X 6'	SINGLE TRUNK 6' CLEAR. CONTAINER GROWN. SOURCE FROM HALE & HINES OR APPROVED EQUAL.

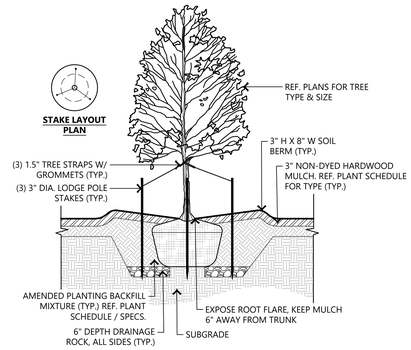
MISCELLANEOUS	QTY	DESCRIPTION	REMARKS
	REF. PLAN	HARDWOOD MULCH	3" DEPTH TRIPLE HAMMERED HARDWOOD MULCH. COLOR: NATIVE. ALL PLANTING BEDS, AND THOSE AREAS SPECIFIED UNDERNEATH EXISTING TREES PER THE PLANS. SUBMIT FOR APPROVAL
	REF. PLAN	ENGINEERED WOOD FIBER MULCH	3" DEPTH ENGINEERED WOOD FIBER MULCH TO MATCH PLAY SURFACING. SUBMIT FOR APPROVAL
	REF. PLAN	PLANTING MIX	8" DEPTH ALL BEDS, 60% TOPSOIL, 40% ORGANIC COMPOST.

SEED MIXES					
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	OZ OR LBS	REMARKS
	236,726 SF	GRASS SEED MIX			1. Hydroseed seed mix evenly across designated area. 2. Substitute Annual Rye for Brown Top Millet if seeding takes place later than August. 3. Ref. specifications for full installation notes. 4. Landscape architect shall approve all substitutions.
		CYNODON DACTYLON	BERMUDAGRASS	237 LBS	
		UROCHLOA RAMOSA	BROWN TOP MILLET	162 LBS	
	4,786 SF	BIOSWALE SEED MIX			1. Finish grade with 2" depth of topsoil, no top soil with invasive seed species allowed. 2. Treat if required with an aquatic approved herbicide 2 weeks prior to seeding. 3. Broadcast mix rate as indicated on the plans. Hydroseed application on all slopes 3:1 or greater. Allow seed to have direct contact with the topsoil. 4. On all slopes 3:1 or greater, erosion control blankets shall be installed over seeded areas as indicated on the plans. 5. Wood cellulose fiber hydromulch shall be sprayed over seeded areas providing a uniform cover with direct contact with the soil. Only provide hydromulch in areas without erosion control blankets. 6. Seed should be Pure Live Seed (PLS) only 7. Substitute Annual Rye for Brown Top Millet if seeding takes place later than August. 8. Landscape architect shall approve all substitutions.
		BIDENS ARISTOSA	TICKSEED SUNFLOWER	0.2 LBS	
		PANICUM VIRGATUM	SWITCHGRASS	0.7 LBS	
		HIBISCUS MOSCHEUTOS	ROSE MALLOW	0.3 LBS	
		JUNCUS EFFUSUS	SOFT RUSH	0.1 OZ	
		VERBENA HASTATA	BLUE VERVAIN	0.3 OZ	
		RUDBECKIA HIRTA	BLACK-EYED SUSAN	0.2 OZ	
		RATIBIDA COLUMNIFERA	MEXICAN HAT	0.6 OZ	
		UROCHLOA RAMOSA	BROWN TOP MILLET	3 LBS	

LIGHTING SCHEDULE NOTES:

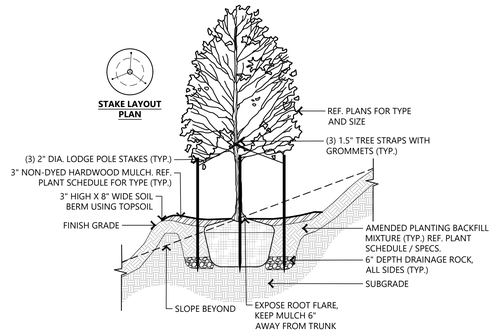
1. LIGHTING SHOWN FOR REFERENCE PURPOSES ONLY. REF. ELECTRICAL LIGHTING PLAN FOR LOCATION AND SPECIFICATIONS.
2. FINAL LOCATION TO BE APPROVED BY LANDSCAPE ARCHITECT AND MEP. SUBMIT CUTSHEET FOR APPROVAL BY LANDSCAPE ARCHITECT & MEP PRIOR TO INSTALLATION.

LIGHTING SCHEDULE			
KEY	DESCRIPTION	MANUFACTURER	MODEL
L1	AREA LIGHT	REF. ELECTRICAL	REF. ELECTRICAL
L2	SPORT COURT LIGHTING	REF. ELECTRICAL	REF. ELECTRICAL
L3	BOLLARD LIGHT	REF. ELECTRICAL	REF. ELECTRICAL



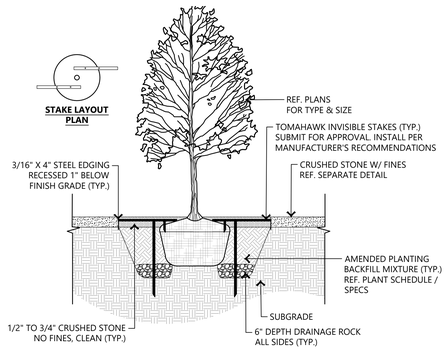
1 CANOPY TREE PLANTING DETAIL W/ STAKES

SCALE: N.T.S.



2 TREE ON A SLOPE PLANTING DETAIL

SCALE: N.T.S.



3 CANOPY TREE PLANTING W/ INVISIBLE STAKES IN CRUSHED STONE

SCALE: N.T.S.

LANDSCAPE NOTES:

1. CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO STARTING ANY WORK. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ARKANSAS ONE-CALL TO CONFIRM ALL UTILITIES. THE CONTRACTOR SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION AT NO COST TO THE OWNER.
2. ALL PLANTS MUST BE HEALTHY, VIGOROUS AND FREE OF PESTS AND DISEASE.
3. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
4. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED ON THE PLANT LIST.
5. ALL REQUIRED TREES SHALL MEET MINIMUM REQUIREMENTS PER CITY OF MARION STANDARDS. ALL TREES MUST BE STRAIGHT TRUNKED AND FULL HEADED, UNLESS SPECIFIED OTHERWISE, AND MUST MEET ALL REQUIREMENTS SPECIFIED ON PLANS.
6. MAINTAIN 5' MINIMUM HORIZONTAL SEPARATION BETWEEN TREE PLANTINGS AND UTILITY LINES.
7. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER CONSTRUCTION. NOTIFY LANDSCAPE ARCHITECT OR DESIGNATED REPRESENTATIVE OF ANY LAYOUT DISCREPANCIES PRIOR TO ANY PLANTING.
8. ALL PLANTING AREAS MUST BE COMPLETELY MULCHED WITH A 3" LAYER OF NON-DYED ORGANIC HARDWOOD MULCH. MULCH SHALL BE NOT BE PLACED IMMEDIATELY ADJACENT TO TREE TRUNKS, BUT SHALL BE KEPT AT LEAST 6" FROM ROOT COLLAR AT THE SOIL LINE.
9. ALL PROPOSED PLANTING AREAS COVERED BY GRASS SHALL HAVE THE SOD COMPLETELY REMOVED BEFORE PLANTING BEGINS.
13. ALL AREAS TO BE SEEDED SHALL RECEIVE 2" OF TOPSOIL AND BE GRADED PER THE GRADING PLAN.
14. ALL PLANTING BEDS SHALL BE CONTAINED BY EDGING MATERIAL OTHER THAN VEGETATION. REFER TO PLANT SCHEDULE FOR TYPES. SUBMIT FOR APPROVAL.
15. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK.
16. THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANTING MATERIAL (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) IN ALL PLANTING AREAS AND LAWN AREAS UNTIL THE WORK IS ACCEPTED IN TOTAL BY THE OWNER.
17. THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF TWO (2) YEARS BEGINNING ON THE DATE OF TOTAL ACCEPTANCE. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE GUARANTEE PERIOD. PRESERVED TREES FOR WHICH CREDIT WAS AWARDED BUT WHICH SUBSEQUENTLY DIE, SHALL BE REPLACED BY THE REQUISITE NUMBER OF LIVING TREES, ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO TOTAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.

1

IRRIGATION GENERAL NOTES:

1. CONTRACTOR TO PROVIDE TREEGATOR SLOW RELEASE WATER BAGS ON ALL NEW TREES. CONTRACTOR SHALL KEEP WATER BAGS FULL UNTIL CITY OF MARION ACCEPTANCE OF THE PROJECT.

E | D | G
Ecological Design Group
www.ecologicaldg.com
phone: 501 378 0200
LITTLE ROCK | ROGERS | WYNNE

LICENSED LANDSCAPE ARCHITECT MARTIN SMITH License Number 5038 5.16.25 STATE OF ARKANSAS

811 Know what's below. Call before you dig.

COLONIAL PARK IMPROVEMENTS

Marion, Arkansas

EDG PROJECT NO.	25-005
DATE	2025.05.16

REVISIONS

Mark	Date	Description
1	2025.05.27	Addendum 1

PHASE	CONSTRUCTION DOCUMENTS
TITLE	LANDSCAPE NOTES & DETAILS
SHEET NO.	L1.10