The Contractor shall provide all labor, materials and equipment to complete job as specified below. Bid Price shall include all materials, equipment and labor. The project must be completed within 72 days from receipt of purchase order.

**DECORATIVE FENCE**

Bid shall include pricing for the installation of approximately 830 total linear feet of new, decorative, 7-ft high picket, black coated metal fencing including one 7-ft high picket 48” clear opening lockable swing gate and two (2) 7’ high, 24’ clear opening cantilever slide gates with heavy duty gate operators and access controls (See Memphis Fencing Project - Exhibit 1). Fencing and gates shall be Aegis II - “Invincible 3-Rail” style by Ameristar or approved equal. The system shall consist of all components including, but not limited to, the following: pickets, rails, posts, and hardware. Install two (2) STANDALONE KEYPADS WITH 400 MEMORY access control systems with Al phones. The western slide gate control system shall be connected to a new 7-inch monitor with Al phone in the Field Maintenance Shop at the location shown on Memphis Fence Project - Exhibit 2. The eastern slide gate control system shall be connected to four new 7-inch monitors and Al phones, one for each unit, in the Readiness Center at the locations shown on Memphis Fence Project - Exhibit 3. POWER CIRCUIT (120 OR 240V/SINGLE PH) TO BE PROVIDED AT CANTILEVER GATES with LOW VOLTAGE CONDUIT (2” electrical, exterior PVC) WITH PULL STRING FROM BUILDING TO CANTILEVER GATE OPERATORS TO BE PROVIDED BY THE CONTRACTOR.

Bid shall include a deductive alternate for the installation of 650 total linear feet of decorative fence and two (2) slide gates as described above and 180 total linear feet of new chain link fence with barbed wire along the south-east road frontage as shown on attached Exhibit 1, which will incorporate one relocated chain link swing gate.

**CHAIN LINK FENCE**

Remove approximately 300 total linear feet of fence and relocate fence, walk gates, and drive gates to different locations as shown on Exhibit 1. Where fence is permanently removed, ensure that any remaining portion of fence posts are a minimum of 6” below grade. Where gates are to be removed from a fence that is to remain, install chain link fence. Install approximately 512 total linear feet of new 6’ tall galvanized chain link fence with three (3) strands of barbed wire along eastern parking lot as shown on Exhibit 1. Install additional barbed wire at bottom of fence to close off gaps and as shown on Exhibit 1. Make repairs to approximately 1,350 linear feet of existing chain link perimeter fence along the western and northern sides of the property using all new materials. Repair all holes or damaged fabric with new wire fabric. Replace barbed wire brackets where they are rusted, broken, cracked or bent. Ensure all new and existing barbed wire brackets are facing the correct direction and securely welded or bolted to the fence post. Ensure each of the three barbed wire slots in the brackets is not damaged and properly holds the wire to ensure the barbed wire is properly seated. Replace posts that are rusted, bent, or broken. Remove all trees and vegetation within three
feet of the fence including vines or brush that has grown up in the fence fabric. Replace all damaged or rusted tension wires. Repair or replace all sections of fence that are leaning or no longer properly secured in the ground. Replace all connectors, caps, wire, nuts, bolts and other fence components that are rusted, cracked or bent. Ensure that all chain link fence components are at an appropriate tension.

**SYSTEM DESCRIPTION:**

**Decorative Fence:** Decorative fence shall be Aegis II - “Invincible 3-Rail” style by Ameristar or approved equal. The system shall consist of all components including, but not limited to, pickets, rails, posts, and hardware. Line Post Spacing: At intervals not exceeding 8 feet. Cantilever Gates: Motor operated for 24 feet clear opening equal to Ameristar “Transport” type ornamental design with “Invincible 3-Rail” style. Fence and Gate Height: 7 feet nominal.

**Heavy Duty Gate Operators:** Gear reduced slide gate operators shall be Model SL580 "Slide" by Sentex Systems or approved equal. Gate operators shall be UL325 listed. Gate operators shall include lockable weatherproof steel cover with same finish as fence. Gate operators shall have motor power of 1 HP. Gate operators shall include loop detectors. Gates shall be operable from within the Field Maintenance Shop or Readiness Center as well as when activated by a key pad. Key pads and AI phones shall be mounted on 42” BLACK GOOSENECK STANDS set in CONCRETE PADS. CONCRETE PADS SHALL BE PROVIDED FOR EACH OPERATOR. ONE (1) FREE EGRESS DETECTOR LOOP AND ONE (1) REVERSING DETECTOR LOOP SHALL BE PROVIDED AT EACH GATE. Loops shall be LiftMaster Model LOOPDETLM or approved equal.

**QUALIFICATIONS:**

Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
Installer: The installer must also have three years experience in fencing installation.

**DECORATIVE FENCE MATERIALS:**
All non-electric fencing materials must have a minimum 3 year warranty.

Steel material for fence framework (i.e. tubular pickets, rails and posts), shall be galvanized prior to forming in accordance with the requirements of ASTM A653/A653M, with minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.90 oz/ft2 (276 g/m2), Coating Designation G-90.

Steel material exterior surfaces shall be hot dipped galvanized with interior surfaces zinc pigmented coated.

Cantilever gate framing and top track material shall be aluminum (Designation 6063-T6) with yield strength of 25,000 psi and a tensile strength of 30,000 psi.

Pretreat galvanized surfaces with a wash followed by an application of electrostatic spray of zinc phosphate. Spray a base coat of thermosetting epoxy powder prior to applying a finish coat of polyester powder coat with a minimum thickness of 2-4 mils.

Finish color for decorative fences and gates shall be black.
DECORATIVE FENCE FABRICATION:
Pre-cut pickets, rails and posts to specified lengths. Pre-drill holes to rails and frames in order to accept pickets, fastening components, bracing and hardware. Pre-drill holes in pickets to allow installation of hardware.

Install PVC grommets into pre-drilled rail holes prior to inserting pickets.

Weld each gate rail to each picket where they intersect. Weld gate uprights to gate rails.

Brace and reinforce cantilever gates with truss cables as required by gate manufacturer.

At all times adhere to manufacturer's fabrication and installation instructions.

DECORATIVE FENCE EXAMINATION:
Verify areas to receive fencing are completed to final grades and elevations.

Ensure property lines and legal boundaries of work are clearly established before excavating for post concrete bases. Do not infringe adjacent property lines.

DECORATIVE FENCE EXCAVATION:
Corner and gate posts will be encased in concrete base twelve inches diameter and fifty-two inches deep.

Line posts will be encased in concrete base twelve inches diameter and forty inches deep.

Concrete used for post base will achieve strength of 3000 psi 28 days after placement.

Drill or hand excavate holes for posts to diameters and spacing’s shown in firm, undisturbed or compacted soil.

Unless otherwise indicated, excavate holes for each post to a depth 4 inches lower than post bottom.

Excavate trenches 18 inches minimum depth for electric power line from power source to cantilever gate motors, Al phones, and key pads.

DECORATIVE FENCE INSTALLATION:
Install posts, rails, pickets, gates, gate bracing and accessories in accordance with Manufacturer's instructions. Provide a one year warranty on workmanship.

Install upper suspension rollers to cantilever gate posts. Install lower guide rollers and gate stops.

Install electric operated motor for cantilever gate. Test motor to ensure proper operation. Ensure motor operates properly from remote locations.

Install loop detectors at locations to allow exit for vehicles. Ensure detectors and hold-open gate timers function properly.
Exit and Safety Loop: Plug-in programmable loops shall be LiftMaster Model LOOPDETLM or approved equal.

Interface loop signals with gate operator actions with approved hardware. Secure wires into saw cut slots in the asphalt pavement.

Asphalt Saw Cut Filler: Cold pour vinyl polymer asphalt filler equal to Latex-ite 2X. Backfill saw cut after wire installation. Pour level with adjoining asphalt surfaces.

Remove excess material and earth from jobsite after completion of work.
Memphis Fencing Project
Exhibit #1

1 inch = 150 feet

Legend

- Utility Pole
- Proposed Gates
- Existing Gate
- Existing Fence
- Commo Line
- Power Conduit
- Ornamental Gate
- New Chain link edge of parking match existing
- Use Partial Gate from Northside of Property
- Relocate existing Fence and Replaced with Chain link
- Relocate existing Gate and Replaced with Chain link
- Relocate existing Gate and Replaced with Chain link
- Relocate existing Gate and Replaced with Chain link
- Partial Gate from Northside of Property
- Underground Power & Commo Line
- Ornamental Gate
- Existing AT&T Line
- Commo Line
- Fence To Be Relocated and Replace with Chainlink
- Repair Low Spot
- Install new Corner Fence 8' from each side of existing corner

Approx. 158 LF
Approx. 70 LF
Approx. 99 LF
Approx. 166 LF
Approx. 454 LF
Approx. 415 LF
Approx. 115 LF
Approx. 512 LF
Approx. 165 LF
Approx. 80 LF
Approx. 74 LF
Approx. 165 LF
Approx. 60 LF
Approx. 182 LF
Approx. 158 LF
Approx. 182 LF