



## **Appendix A**

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### REQUIREMENTS/SPECIFICATIONS

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## **REQUIREMENTS/SPECIFICATIONS**

The required contents and limitations for the preparation of the RFB are described in this section. Failure to provide the requested information or adhere to any County limitations may result in disqualification of the submitted response.

### **Section I: EXECUTIVE SUMMARY/UNDERSTANDING OF THE PROJECT** (limited to 2 pages)

The Executive Summary should include the Company name and address; name, title, email, telephone and fax number of person(s) to be contacted for clarifications or additional information regarding the submission; and the name, title, negotiations. Lastly a brief description of the Company's Understanding of the Project. The Understanding of the Project should demonstrate the respondent's understanding of the needs, the work required, and any identify and local issues or concerns to demonstrate the firm's familiarity with the geographical email, telephone and fax number of person(s) authorized to contractually obligate the Company and any future area of County of Hidalgo.

### **Section II: VENDOR INFORMATION**

a. Vendor History -This section should include Vendor's history, background, experiences and qualifications demonstrating the company competency and experience in, but not limited to the specialty areas listed in the Scope of Services, and relative projects located within Hidalgo County or in this general region of the state. The experience listed should include a description of the vendors most recent and varied projects, and identify key challenges, and the vendor's solution to overcome such challenges.

b. Proof of Licenses and Certifications - This section will contain copies of any and all current state certifications and licenses with applicable seals, and any other applicable licenses and certifications as required by the State of Texas.

### **Section III: REFERENCES**

This section should list four (4) references, other than past or present employees of Hidalgo County, who can verify your performance as a Vendor within the past 24 months. Performance includes, but not limited to, sales and/or services, delivery, invoicing, and other items as may be required for Hidalgo County to determine Respondent's ability to provide the intended goods and/or service of this procurement packet. Hidalgo County prefers references to be from Government customers. The name, address and phone number of the person(s) listed should be the one most closely associated with your company's performance on that specific project. References must be able to verify the quality of service Respondent's company provide and that the Respondent has completed a project of similar size and scope of work in this solicitation. Inaccurate, obsolete or negative responses from the listed references could result in rejection of your response. One of the four references listed should be of a project that was canceled with a description of why the project was canceled. Failure to supply the required references may deem your response as non-responsive and will not be considered for award.

Respondent's involvement with reference checks is not permitted. Only Hidalgo County Purchasing Department or authorized designees will conduct reference checks. Any deviation to this may result in rejection of your response. You may use your own format, or use the Reference Form included as Appendix "M".

### **Section VI: DELIVERY**

**Successful respondents shall deliver and unload** the goods of product requested to specified **location or job site** required within 24 hours, or earlier, if requested. Respondents agrees, to the extent an item is unavailable from their own inventory; respondent is responsible for locating an alternative supplier and for providing the product to Hidalgo County at the awarded price, regardless if additional costs are increased by successful respondent..

### **Section V: SCOPE OF WORK**

The following items will become necessary specifications, services, equipment or options in order to complete Inmate Phone System”:

- Latest technology inmate phone system
- Able to profit from selling calling cards
- The County of Hidalgo must retain commission based on calls made by inmate
- Lobby Kiosk & Intake Kiosk to automate deposits
- Ability to identify inmate by voice, fingerprint, camera, personal identification number or Iris recognition in association with system usage.
- Interface integration with Odyssey; ability to extract phone numbers by inmates, from calls made.
- Mass telephone number download capabilities for all outgoing calls on a monthly basis.
- Ability to access jail inmate calls system from multiple internal affairs desk top ports.
- Recording capabilities for infirmary, booking, releasing, visitation or any other area where an inmate can make a call with ability for client to waive the call fee.
- Call Detection when Inmates dial same outside number
- Immediate notification of calls to flagged telephone numbers for review (NOTE: immediate notification to internal affairs).
- Location – GPS watch list
- 24-Hour Support
- Log-in access from any computer
- User auditing system
- Alert on three-way calling
- Live call monitoring
- Schedule shut down, emergency shut down
- Calling Cards
- Record and monitoring of inmates calls from all cells
- Be able to record and monitor inmate calls made during visitation booth
- Be able to record and monitor inmate calls made from booking
- Be able to copy recordings to CD's to be used as evidence in court
- Be able to block telephone numbers where inmate is harassing caller
- For investigative purposes, be able to log in to system from any computer using web interface or implement through active directory.
- Have a database large enough to keep recorded calls for an extended period of time (2-3 yrs.)
- Option to have hardware and equipment at vendor's facility.
- English and Spanish System Capability – The system must be capable of responding to English and Spanish speaking inmates. There shall be dialing instructions provided in English and Spanish on each inmate phone set. System prompts, warnings and messages must be available in English and Spanish. The vendor must describe how this will be accomplished with the proposed phone sets. If needed, additional languages must be available at no cost to Hidalgo County.
- Programmable conversation length
- TDD/TTY Compatible - Inmate telephones must be compatible with the use of TDD/TTY units that may be required for hearing impaired inmates.
- Automated Direct Call Processing
- Uninterruptible Power Source
- Unlimited End Users - The system should support unlimited number of end users.
- Restricted User Roles -The system shall provide the ability to establish roles for users who are setup to only allow access to specified inmates or dialed numbers.
- Real-Time Call Monitoring
- Inmate Crime Tip Line -The system must provide a no-charge, speed-dial number that connects to a recorded that can be used by inmates to anonymously report criminal activity within the facility or to provide information related to criminal investigations.
- Attorney Numbers-Inmate calls to approved legal/attorney numbers shall be exempt from monitoring and recording. Describe in detail how the system will protect pre-approved attorney numbers from monitoring and recording. Individual attorney numbers must be configurable for predefined call durations as necessary.

- Ad Hoc Reports -The inmate telephone system must provide ad hoc reporting capabilities that allow authorized staff to build custom reports using advanced tools for selecting, sorting, and combining call data that may reveal trends and correlations that might otherwise not be apparent in standard call detail reports.
- Security Threat Groups -The system's reporting capability must have a built-in security threat correlating function. It must allow the definition and selection as search criteria one or more special lists of inmates (e.g. all inmates belonging to a particular gang) and one or more special lists of telephone numbers (e.g. facility employee numbers), such that all calls by inmates in a given list are automatically correlated with the specified list of numbers.
- Other Administrative and Investigative Reports- In addition to call detail reports, the inmate telephone system must provide a variety of other administrative and investigative reports at the PC workstation. When appropriate, the user must be able to limit the search to call records that meet specified criteria. Describe the report capabilities of the proposed system and discuss the system's ability to provide the special types of reports listed below. For specified time periods, the desired reports should include, but not be limited to:
  - Call frequency reports by origination number, destination number, PIN, and trunk line ID.
  - Report of all numbers called by more than one inmate.
  - PIN report showing when and by whom the accounts were created and/or modified.
  - Hot PIN report that identifies PINs of special interest and their assigned Alert Groups.
  - Hot number report that shows all calls/attempts to numbers of special interest.
  - Call recording playback history report (showing when and who listened to a recording).
  - System activity and user log reports that include among others, a report of users who have downloaded and copied calls to CD or other portable medium.
  - Call statistic report providing a numerical count of total completed (accepted) calls and total incomplete calls with separate counts for attempted calls that did not complete because they were blocked, refused, not answered, or not completed due to a busy signal.

## **OPTIONAL EQUIPMENT/SERVICES**

**OPTIONAL:** Equipment/Services that may be available upon acceptance by Hidalgo County Sheriff's Office.

- Investigative data analysis software
- Inmate release with Debit Cards
- Video visitation
- Cellular, Wi-Fi & mobile device detector within jail
- Photo Recognition

## **CABLING SPECIFICATIONS**

The awarded Contractor may utilize the existing cabling if compatible with the system being installed. If additional cabling is required in the installation process, Contractor shall obtain written permission from the County before proceeding with any work that requires altering its facility. This shall include, but will not be limited to, cutting, drilling, or modifying the facility in any manner.

## **SUMMARY OF WORK:**

1. All wire must be in an EMT, Rigid Electrical Conduit, BX cable, Liquid seal tight cable and Armor cable. **No PVC.**
2. All Electrical work must follow the National Electrical Code 2020.

3. All work must be neat in appearance using the following: metal straps, one hole, unit- strut straps, stand-off straps, and supports.
4. All work that may require penetrating any wall: Concrete, CMU Block, Security sheet rock. Must be sleeved with an EMT conduit and seal with fire rated caulking. The fill in each sleeved used must be not less or more than 80% fill. This is for future use, sleeves must have a connector with a bushing, or a coupling to prevent any wire from being damaged; cut pinched or damaged.
5. All work must be supported from main structures using smooth wire with j-hooks or trapeze with all thread and beam claps. Don't tie in to any existing trade support system.
6. All Cat 5e –Cat 6e plenum wire must be marked at both ends of terminations with a self-laminating wire and cable marker. Numbers & letters.
7. Existing cable inside inmate cell may be used; as long as they are not damaged or deemed not compatible in new scope of work. Both ends must also be marked or identified if marking has been removed.
8. **NO EXISTING EMPTY CONDUIT SHALL BE USED.** All conduits that are mounted in slabs or through walls may not be used.
9. All screws must be tamper resistance: tamper resistance torxs, or allen.
10. All work must be able to be remove from mounting system if work is need to preformed on any visitation viewing glass
11. **HIDALGO COUNTY SHERIFF OFFICE reserves the right to request any changes on the Inmate Phone(s) upon inspection and determination that tampering of equipment has occurred.**

## **BASIC MATERIAL AND INSTALLATION METHODS**

### GENERAL DESCRIPTION:

- A. Work included in this section: Material, equipment fabrication, installation and test in conformity with applicable codes and authorities having jurisdiction, for the following:

#### **Raceways.**

1. Wire and cable
  2. Low voltage distribution equipment
  3. Devices
  4. Inserts and supports
  5. Empty conduit for Tel / Data Electronics
  6. Cutting and Patching
  7. Fire stopping
- B. Related work – Not in Electrical Scope of Work
1. Security Electronics – Telephone / Data / Inmate Visitation Phones systems
  2. Painting – other than equipment finishes touch-up. Any work surface must match existing painted surfaces. Contractor must request paint color specimen (or) color code from Maintenance Dept. Contractor will purchase paint from OEM Paint supplier.
  3. Plywood backboard (3/4) in phone room if space is not available to install any necessary work
  4. Fire stop in and all penetrations thru fire walls: ( EMT Conduit Sleeve with bushing on both ends )
  5. Sheet rock repair in and all penetrations thru fire walls
  6. Masonry repair in any and all penetration thru fire walls
  7. Replace any ceiling tile & grid in ceiling.
  8. Metal work welding bonding
  9. Installing any support system as needed from main structure - bar joist or support beams: Need to support any and all Data wire cat 5 or cat 6 plenum data wire; smooth wire, 1/4 & 3/8 all thread support rod, or trapeze if needed.
  10. Any work needed to finish this project as needed or not included in the general scope of work.

## **INCORPORATED DOCUMENTS**

- A. REQUIREMENTS of GENERAL CONDITIONS and SUPPLEMENTAL CONDITIONS apply to all work in this Section.
- B. SUBMITTALS shall be complete bound under cover and indicating project title, specification section and or/ drawings references. Contractor shall review submittals for conformance with Contractor Documents make necessary revisions and submit to HIDALGO COUNTY SHERIFF OFFICE
- C. SUBSTITUTIONS-Contractor shall inform the Hidalgo County Sheriff Department Staff of any substitution of item from what was proposed.
  - 1. It is the intent that the Contractor supplies the equipment and material specified. Equipment and material other than that specified obligates the Contractor to submit appropriate documentation to allow sufficient time to consider the acceptance of the substituted item(s) AND accept full responsibility for space compatibility
  - 2. Acceptance of substituted items(s) implies a substitution in kind, meeting all appropriation performance, quality, function, and installation requirement as the base bid specification item(s) including space requirements.
  - 3. All cost for removal, relocation or replacement of the substitution items(s) shall be at the risk of the contractor with no additional cost to the Owner if substitution items(s) fails to meet requirements, including code clearances of the specified item(s).
- D. PROCUCT DELIVERY STORAGE AND HANDLING
  - 1. Equipment shall be shipped in its original package, to prevent damage or entrance of foreign matter. Provide protective coverings during construction.
  - 2. Replace at no expense to Owner, equipment or material damaged during storage or handling, as directed by Hidalgo County Sheriff Office Designee.
  - 3. All items shall be tagged with a weatherproof tag identifying equipment by name packing and shipping list.
  - 4. Equipment may be stored in Maintenance shop or Electrical room if necessary and must be secure by Contractor to prevent any damage or loss of parts.
- E. RECORDED DRAWINGS
  - 1. Maintaining complete set of drawing from Start to Finished point, indicating all work installed: Electrical, route of wire, and identifying both point of any terminations.
  - 2. At end of project, transfer all changes to reproduction transparencies and submit these transparencies and field drawing to HIDALGO CO SHERIFF OFFICE DESIGNEE. Mark drawings, "RECORD DRAWINGS".

**MATERIAL DESCRIPTION:**

**A. RACEWAYS (all items specifying brand name, same as or equivalent too):**

- 1. Rigid steel conduit (RGC); full weight or intermediate weight (IMC) pipe galvanized threaded, minimum diameter ½ inches.
- 2. Aluminum conduit; full weight pipe, threaded, minimum ½ inch, except as noted or required for wiring.
- 3. Electrical metallic tubing (EMT); thin wall pipe, galvanized, threadless, minimum diameter ½ inch except as noted required for wiring.
- 4. Flexible steel conduit; continuous single strip, galvanized, minimum diameter ½ inch as noted for wiring. PVC covered for liquid tight.
- 5. Acceptable manufactures, similar to:
  - A. Rigid Steel-IMC: Allied, Western, Triangle, Wheatland, LTV.
  - B. Aluminum, Allied, Western, Triangle, Wheatland, LTV
  - C. EMT; Allied Western, Triangle, Wheatland, LTV
  - D. Flexible; Anaconda, Electroflex, Alfex, AFC
  - E. Exterior use: Hinged cover and base, minimum No. 14 gauge galvanized steel, weatherproof and gasket.
  - F. Acceptable Manufacturer: Similar to Hoffman Engineering co., Square D Co., Wiremold, Walker Duct.

6. Wireways; complete with all fittings and accessories. Size as noted, baked enamel finish inside and outside, approved for support at minimum 10feet on centers

## **B. FITTINGS AND ACCESSORIES:**

1. Raceway fittings:
  - A. Rigid steel conduit; steel or malleable iron, galvanized.
  - B. Aluminum conduit; aluminum alloy.
  - C. EMT; galvanized steel, set screw steel connectors & couplings. Indentor type fittings not acceptable.
  - D. Flexible metallic conduit; angle wedge type with insulated throat.
  - E. Bushings; metallic insulated type, Weatherproof or dust-tight installations; liquidtight with sealing ring and insulated throat.
  - F. Expansion and deflection fittings: O.Z. / Gedney type "DX" for embedded conduit and flexible conduit for exposed conduit.
2. Sleeves:
  - A. Extend flashing 10 inches around edge of raceway. Flashing subject to review.
  - B. Sleeves must be in EMT conduit with a connector, coupling with a PVC, nylon bushing. And must be sealed with fire caulking in and around the sleeve. Must have a tight fit if it penetrates any of the following; Sheetrock fire rated wall, masonry block, Concrete, and or metal.
3. Seals: Raceways in sleeves, oakum packing and lead or O.Z. / Gedney Type WSR on both entries. Cable through sleeves, O.Z. / Gedney type WSC on both entries.
4. Acceptable manufactures, similar to:
  - A. Fittings: O.Z./Gedney, T & B, Bridgeport, RACO Steel City, Appleton, Chrouse Hinds.
  - B. Supports; Super strut, UNISTRUT.
  - C. Fasteners: Caddy, Rawl, Philips Redhead.
5. Boxes:

Outlet boxes: except as other wise required by construction, devices or wiring, as Follows:

  - A. Stamped steel, 4 inch, square or for electrical work; 2-3/4 inch deep above ceiling, 2-3/4 inch deep in wall, surface mount.
  - B. Surface mounted boxes for receptacles and switches, 4 inch square, 1-1/2 to 2-3/4 inches deep with raised covers and fixture studs where required. Through-the wall type; not permitted.
  - C. Galvanized cast iron or aluminum with thread hub; 4 inch square, 2 inch deep with gasket cover.
  - D. Boxes without fixture or device; provide with blank cover. Must marked or label with it designation or circuit number.
  - F. Offset back-to-back outlets with minimum six inch separation.
  - E. Acceptable manufactures; Steel city, RACO, Appleton, Bridgeport.
6. Junction and pull boxes:
  - A. Galvanized sheet steel.
  - B. Covers: screw-on, except as noted
  - C. With insulated support for cable.
  - D. Location; as indicated, where required and accessible.
  - E. Outdoor and damp location; galvanized cast iron or aluminum with thread hubs and gasket.
  - F. Provide barriers between wiring energized from emergency and normal wiring and conductors of different thermal ratings and / or voltage insulation levels.

## **C. 600 VOLT WIRE AND CABLE**

- A. 600 volt wire and cable complete with accessories; sizes AWG, except as noted.
- B. Conductors; sizes as indicated in accordance with the following;

1. Solid annealed copper for size No. 10 and smaller and stranded copper for sizes No. 8 and larger. No aluminum or aluminum alloy wire permitted.
2. 600 volt insulated types:
  - Type THHN/THWN: Feeders and branch circuits, generally throughout, except where not permitted by applicable code or as otherwise specified.
  - Type AC & MC Armored Cable and Metal Clad Cable- maximum size # 6 to be used as branch circuits and feeders where acceptable to local and National Electrical Code.
  - Type SFF: Branch circuits located in wiring channels of continuous fluorescent fixture or where ambient temperatures are over 90 degrees.
  - Type XHHW; Ungrounded isolated branch circuits.
  - Color Coding:
    - 1) Phase conductors for 120/208 Volt system;
      - Phase A – Black
      - Phase B – Red
      - Phase C – Blue
    - 2) Phase conductors for 277/480 Volt system
      - Phase A – Brown
      - Phase B – Orange
      - Phase C – Yellow
    - 3) Neutral wire; white.
    - 4) Equipment ground wire; green
    - 5) Where colored feeder cable insulation is not available, overlap colored taping on conductors (minimum length, three inches) in accessible location.

C. Accessories:

1. Cable supports in riser; clamping device with insulation wedges or “Kellems” grips.
2. Tags:
  - A. Flameproof; in accessible location.
  - B. Feeders: Indicate number, size, phase and points of origin and Terminations. Control or alarms: Indicated type of control or alarms and points of origin and terminations.
3. Terminations, splices and taps:
  - A. Cable lugs and connectors: Compatible metal with conductor to match cable with marking indicating size and type.
  - B. Copper conductors No. 10 and smaller: Compression type or twist-on spring load connectors and clear nylon insulated covering.
  - C. Copper conductor No. 8 and larger: Mechanical bolted pressure or hydraulic compression type using manufactures recommended tooling.
  - D. For copper lug connections to bus bars provide anti-seize compound.
  - E. Aluminum bus bar connections: Tin plated lugs and compression type washers (“Belleville” type”).
4. Acceptable manufacture; similar to:
  - A. Power Cable; Anaconda, Triangle, Rome, General Cable, South wire, Essex, AIW.
  - B. Control Cable; Belden, Mohawk, West Penn.
  - C. Accessories;
  - D. Termination and Connection: T & B / Thomas & Betts, 3M, Burndy
  - E. Tags; Brady, T & B / Thomas & Betts, Raychem.

**D. LOW VOLTAGE DISTRIBUTION EQUIPMENT**

1. Disconnect Switches:
  - A. Non-fused or fused as indicated.
  - B. Voltage: 250 volts rated on 120/ 208 volt circuit and 600 volts rated 277/ 480 volt circuit.
  - C. Heavy-duty, quick-make quick-break.
  - D. Horsepower rated for motor load.
  - E. Toggle type switches as follows:
    1. Non-fused, load break.

2. Maximum rating; 20 amps at 600 volts and 30 amps at 250 volts
  3. Two pole: similar to Arrow-Hart No. 6808
  4. Three pole similar to Arrow-Hart No. 7810
  - F. Knife blade type switches:
    - A. Load type with arc quenchers.
    - B. Maximum rating; 800 amps at 600 volts.
    - C. Manufacturer; similar to General Electric, QMR.
2. Remote Control Switches:
    - A. Electrically operated, mechanical held
    - B. Ratings: As noted
    - C. Enclosure: Dead Front, NEMA type as noted.
    - D. Vibration isolation mounting.
    - E. Soundproof enclosure.
    - F. Lighting and mixed loads up to 225 amps; Similar to Automatic Switch Co. No. 920, Zenith, GE, Square D or Siemens.
    - G. Inductive loads up to 225 amps. And all loads from 225 amps up to 2000 amps: Similar to Automatic switch Co. No. 911.
3. Fuses; Continuous Current Rating, as Indicated:
    - A. Current limiting – 200,000 amps interrupting current rating. Similar to “Bussman”, type as indicated:
    - B. Fusetron, “FRN”, 250 volt 15-600 amp (U.L. Class RK5), time delay.
      1. Fusetron, “FRS”, 600 volt 15-600 amp (U.L. Class RK5), time delay.
      2. Limitron, “KTN”, 250 volt, 15- 600 amp (U.L. Class RK1).
      3. Limitron, “KTS”, 600 volt, 15-600 amps (U.L. Class RK1).
    - C. All fuses: Same manufacturer.
    - D. Provide one spare matching fuse for each set of three.
  4. Circuit Breaker:
    - A. Molded case:
      1. Thermal-magnetic, 400 amp frame and below; solid state trip elements 600 amp frame and above. Bolt-on, quick-make break for both types.
      2. Manually operation with insulation trip free handle and rated for switching duty.
      3. Multi-pole type: With internal trip bar.
      4. Terminal: Suitable for copper or aluminum cable.
      5. Auxiliary devices as indicated.
      6. Enclosures: Dead front, NEMA Type 1, except as noted.
      7. Frames as indicated, interchanged trips and interrupting capacity not less than noted available symmetrical short circuit Current.
  5. Panelboards: Circuit breaker type, rating as noted.
    - A. Bus bars: Hard drawn copper, minimum 98 percent conductivity, silver plated joints. Or Alloy aluminum with tensile yield strength of 20,000 psi, minimum 55 percent conductivity, and tin plated joints.
    - B. Enclosures:
    - C. Cabinets with:
      1. Galvanized sheet steel back box.
      2. Door and trim.
      3. Lapped and welded corners.
    - D. Hardware; chrome plated with:
      1. Flush lock and catch: Up to 48 inch high door.
      2. Vault handle, lock and 3-point catch: Larger than 48 inch door.
    - E. Hinge:
      1. Standard steel with no-ferrous pins.
      2. 80 degree opening.
      3. Locate maximum 26 inch on centers.

4. Hinged trim cover for Panelboards over 36 inches high.
- F. Minimum gutter spaces:
  1. 100 and 225 amp mains: 5-3/4 inch sides top and bottom.
  2. 400 amp mains: 9 inch sides, 8 inch top and bottom.
  3. 600 and 800 amp mains: 9 inch sides, 12 inch top and bottom.
  4. 1200 amp mains: 12 inch sides top and bottom.
  5. Increase sizes where required by code for “subfeed” or “feed through cables.
- G. Directory:
  1. Holder: Metal frame with clear plastic, transparent cover.
  2. Typewritten list indicating feeder cable and conduit size, circuit number, outlets, supplied and their locations.
- H. Acceptable Manufactures; Similar to:
  1. Switches:
    - A. Siemens
    - B. Square D
    - C. Automatic Switch Co. – remote control switches only.
  2. Fuses:
    - A. Bussman
    - B. Littelfuse
    - C. Ferraz Shawmut
  3. Circuit breaker:
    - A. Siemens - Bolt on BL
    - B. Square D - Bolt on
  4. Panelboard:
    - A. Siemens - Bolt on BL
    - B. Square D - Bolt on

**E. MOTOR CONTROLLERS – FURNISHED UNDER MECHANIAL SECTION**

1. Enclosed with motor control centers or individually mounted as indicated. Individually mounted starters in NEMA Type 1 enclosure, except as noted.
2. Components:
  - A. Terminal Copper.
  - B. Overload protection: In each phase leg and coordination with indicated motor horsepower, with rest button in enclosure.
  - C. Pilot lights: When specifically called for.
    1. Six volt incandescent lamp. Of specified color.
    2. Candelabra base receptacle with transformer for lamps.
    3. Positive indication for motor with local disconnect switches.
    4. Switches: Horsepower rated, load break, external padlocking type.
    5. Short circuit protection: Fused as indicated.
3. Manual Type:
  - A. Coil: Minimum 10 amperes per pole, 110 to 125 volt operating, 240 volt, A.C. maximum rating, 60 hertz.
  - B. Contact: Main line and minimum two, 10 amp convertible, auxiliary contacts.
  - C. Control transformer: For motor over 120 volt to step down control voltage to 120volts; of required capacity with fuse and grounded connection on low voltage side.
  - D. Manual-control: Momentary contact pushbuttons, red pilot light for “ON” and green pilot light for “OFF” positions and low voltage protection.
  - E. Manual-automatic control: With HOA selector switch – all starters.
  - F. Disconnect switch within controller housing, for control wiring derived from independent source. Interlock control switch with power switch for simultaneous “ON-OFF” operation.
4. Controller Type: Similar to Cutler-Hammer, of catalog numbers specified, modified as noted. Coordinate controller and auxiliaries with motor supplied and operation as defined under DIVISION 15. (All items specifying brand name, same as or equivalent to)

- A. Manual; single speed:
  - 1. Two pole
  - 2. Pilot light; red for “ON” position only
  - 3. HOA selector switch for automatic operation.
- B. Magnetic; single speed – non-reversing;
  - 1. Full voltage non-reversing magnetic starter.
  - 2. HOA selector switch, all starters.
  - 3. Two sets of auxiliary contactor, NC/NO, per starter
- C. Push button stations: When required
  - 1. START – STOP push buttons
  - 2. Pilot light
  - 3. Lockout provision.
  - 4. Oil tight
- D. Hand-off-Automatic (HOA) stations: When required- separate from starters.
  - 1. HOA selector switch.
  - 2. Pilot lights.
  - 3. Lockout provision.
  - 4. Oil tight
- F. Manufacture; similar to cutler-Hammer Inc., Allen Bradley, Furnas Electric Co

## F. DEVICES

- A. Local Wall Switches;
  - 1. Heavy duty, toggle, quiet type, specification grade.
  - 2. 20 amp, 120/277 volt, A/c
  - 3. Similar to Harvey Hubbell Catalog Nos. as follows:
    - A. Single pole, No 1221-1
    - B. Double pole, No 1222-1
    - C. Three-way, No 1223-1
    - D. Four-way, No 1224-1
- B. Insertion Receptacle:
  - 1. Grounded, except as noted.
  - 2. Similar to Leviton “Decora” Style with 2 plate mounting screws.
    - A. Duplex convenience; specification grade.
      - 1) 20 amp, 125 volts, 2 pole, 3 wire, u ground slot, Catalog.
    - B. Single, specification grade.
      - 1) 20 amp, 125 volts, 2 pole, 3 wire, u ground slot, Catalog No. 5361-I
    - C. Duplex, specification grade, isolated ground.
      - 1) 20 amp, 125 volts, 2 pole, 3 wire, u ground slot, Catalog. No. IG-5362
    - D. Ground fault interrupter receptacles: Self protecting type, duplex convenience
      - 1) 20 amps, 125 volt, 2 poles, 3 wires, U ground slot, Catalog No. GF-5362-I
- C. Device Plates:
  - 1. High impact, thermal- setting, smooth **NYLON**, “Decora” style with two-plate mounting screws per plate.
  - 2. For receptacles with other than 120 volts, inscribed voltage available.
  - 3. All devices plates in detention areas shall have “snake eye” security screws, two per plate, and or tamper proof torqs bit.
- D. Time Switches: as indicated.
- E. Acceptable Manufactures: Similar to (all items specifying brand name, same as or equivalent too):
  - 1. Local wall switch, receptacles, device plate and pilot light:
    - A. Harvey Hubbell Inc.

- B. Leviton
- C. Pass & Seymour
- 2. Time switches:
  - A. Tork.

#### **G. INSERTS AND SUPPORTS**

- A. Maximum Loading: 75 percent of rating.
- B. Insets:
  - 1. Expansion case and concrete fasteners: Grinnel figure 117 and Series R.
  - 2. Concrete drilled to received required expansion case of concrete fasteners.
- C. Supports from Building Construction: Beam clamps, cantilever brackets, or other acceptable means after review.
- D. Grouped Lines and Services: Supported by trapeze hangers of bolted angle or channels.
- E. Where building construction is inadequate, provide additional acceptable framing after review.

#### **H. TELEPHONE – DATA (TELE / DATA) – MATV / CATV CONDUIT SYSTEMS EQUIPMENT and CABLING INSTALLED by Contractor if needed**

1. Empty conduit telephone raceway system as indicated on the Drawings and consisting of:
2. Empty conduits – Underground to Property Line –per drawings.
3. Distribution Conduits – per drawings.
4. SLEEVES – ALL FIRE WALLS TO STRUCTURE. EMT CONDUIT WITH CONNECTORS WITH PVC BUSHINGS OR COUPLINGS TO PREVENT DAMAGE TO WIRE.
5. Terminal boards – 3 / 4 - 4 x 8 plywood furnished and installed by GENERAL CONTRACTOR ONLY IF THERE IS NOT SPACE AVAILABLE AT LOCATION.
6. Outlets – 3 / 4 EMT stubbed to Accessible Ceiling space, from each outlet.
7. Outlets boxes – 4”square – 2 – 1/8” Deep – with one gang P.R.
8. Outlet cover plates and terminal devices furnished and installed by equipment / cabling installer.
9. Nylon pull strings to be installed in distribution conduits or sleeves. Nylon pull strings shall be installed in all conduits except 10’ stub- ups to accessible lay-in ceilings.
10. Electrical contractor to provide **120 VAC Emergency** powers as required by telephone equipment / cabling installer.
11. Other in inmate holding areas must have continuous concealed conduit (EMT or Rigid) to the nearest TELE/DATA OR MATV / CATV DISTRIBUTION BOARD.
12. TELE / DATA AND MATV / CATV cabling shall be exposed only on designated distribution boards. Electrical contractor shall install multiple 2” EMT conduits or larger if needed from TELE / DATA AND MATV boards to accessible attic space.
13. INTENT of CONDUIT ACCESS SYSTEMS is A SYSTEM THAT WILL PERMIT THE TELE/DATA SYSTEM TO BE CABLED AT THE END OF THE JOB. ELECTRICAL CONTRACTOR WILL INSTALL CONDUITS TO ACCESSIBLE LAY – IN CEILING AREA AND SLEEVE FIRE WALLS – CABLE CONTRACTOR WILL BE RESPONSIBLE FOR SEALING CABLE WITHIN SLEEVES THAT CROSS ALL FIRE WALLS.
14. Electrical contractor will install terminal cabinets if need to provide power to any equipment that may need power.
15. Electrical contractor is responsible to install a electrical panel (commercial grade bolt on - Siemens panel), step down or step up transformers to provide power to any equipment that may require power; if the nearest electrical panel dose not have more that 2 spare breakers in panel. There must be at least one (1) spare breaker in panel any existing panel.
16. While terminating Category 5e or 6e twisted pair cables be sure the natural twist of each pair is carried through as close as practical to the point of mechanical termination. TIA / EIA 568-B.2 required no more than 0.5 inch (13mm) untwisted for Category 5E & 6E as it will affect performance at high bit rates.

17. Cabling should be secured and placed in a manner which prevents kinking and tight cinching. Do not excessively bend the cable greater than four times the cable diameter.
18. Cabling should not be subjected to greater than 25 pounds of pulling tension (110N).

## **LCAT 5 & CAT 6 PLENUM DATA WIRE AND DEVICES**

1. Category 5e & Category 6e Plenum type MPP / CMP 350 MHZ 24 AWG solid 4 pair unshielded twisted pair cable (signal electronic cable), complete with accessories; sizes.
  - A. Category 5E, Category, 6E plenum 24 AWG solid 4 pair wire unshielded twisted pair cable.
  - B. Modules RJ 45 Cat 5E, Cat 6E.
  - C. Telephone wall plates, jacks, and accessories plates if necessary
  - D. Telecommunication products: wiring blocks, relay racks, cabinets, and accessories, patch panels.
2. Acceptable manufactures, similar to(all items specifying brand name, same as or equivalent too):
  - A. ICC, Coleman Cable Inc, Commercial Grade - CMP 350, General Cable, Carol Brand, Geneses, Honeywell
  - B. Modules Cat 5E, & Cat 6E - ICC brand
  - C. Inmate phone service part exclusive to there respective company.
3. Conductors & Race ways: sizes as indicated in accordance with the following;
  - A. Wiremold wire management systems mild steel
  - B. Panduit wire managements systems mild steel
  - C. Rigid steel conduit (RGC); full weight or intermediate weight (IMC) pipe galvanized threaded, minimum diameter ½ inches.
  - D. Electrical metallic tubing (EMT); thin wall pipe, galvanized, threadless, minimum diameter ½ inch except as noted required for wiring.
  - E. Flexible steel conduit; continuous single strip, galvanized, minimum diameter 3/8 – 1/2 inches as noted for wiring. No longer than 2 ft
4. Acceptable manufactures, similar to:
  - A. Rigid Steel –IMC: Allied, Western, Triangle, Wheatland, LTV.
  - B. Aluminum; Allied, Western, Triangle, Wheatland, LTV.
  - C. EMT; Allied, Western, Triangle, Wheatland, LTV.
  - D. Flexible; Anaconda, Electroflex, Alflex, AFC.
5. Wire ways; complete with all fittings and accessories. Size as noted, baked enamel finish inside and outside, approved for support at minimum 10feet on centers
  - A. Interior use: Hinged cover and base, minimum thickness 16 gauge galvanized Steel.
  - B. Exterior use: Hinged cover and base, minimum No. 14 gauge galvanized steel, weatherproof and gasket.
  - C. Acceptable Manufacturer: Similar to Hoffman Engineering Co., Square D Co., Wiremold, Walker Duct,
6. Raceway fittings:
  - A. Rigid steel conduit; steel or malleable iron, galvanized.
  - B. Aluminum conduit; aluminum alloy.
  - C. EMT; galvanized steel, set screw steel connectors & couplings. Indentor type fittings not acceptable.
  - D. Flexible metallic conduit; angle wedge type with insulated throat.
  - E. Bushings; metallic insulated type, Weatherproof or dust-tight installations; liqdtight with sealing ring and insulated throat.
  - F.Expansion and deflection fittings: O.Z. / Gedney type “DX” for embedded conduit and flexible conduit for exposed conduit.
  - G. Acceptable manufactures, similar to:  
Fittings: O.Z./Gedney, T & B, Bridgeport, RACO Steel City, Appleton, Crouse Hinds.
7. Sleeves:
  - A. Extend flashing 10 inches around edge of raceway. Flashing subject to review.

- B. Sleeves must be in EMT conduit with a connector, coupling with a PVC, nylon bushing and must be sealed with fire caulking in and around the sleeve. Must have a tight fit if it penetrates any of the following; Sheetrock fire rated wall, masonry block, Concrete, and or metal.
  - C. Seals: Raceways in sleeves must be sealed with fire caulking or sealant.
  - D. Acceptable manufactures, similar to (all items specifying brand name, same as or equivalent too):
    - 1. Hilti fire stop, 3M fire barrier sealant, DAP fire stop sealant, Rectorseal Metalcaulk 1000 firecaulk sealant.
8. Boxes:  
 Outlet boxes: except as other wise required by construction, devices or wiring, as Follows: Weather proof box, Wiremold, Walker Duct, or any boxes that the data / phone manufacture may construct to enclose there product that meets UL regulation and that is tamper resistant-vandal proof.

## **J. INSERTS AND SUPPORTS**

Acceptable manufactures, similar to (all items specifying brand name, same as or equivalent too):

- A. Maximum Loading: 75 percent of rating.
- B. Insets:
  - i. Expansion case and concrete fasteners: Grinnel figure 117 and Series R.
  - ii. Concrete drilled to required expansion case of concrete fasteners.
- C. Mounting supports
- D. Supports from Building Construction: Beam clamps, cantilever brackets, or other acceptable means after review.
- E. Grouped Lines and Services: Supported by trapeze hangers of bolted angle or channels.
- F. Smooth wires fasten from main structure with a J hook communication cable support bracket.
- G. Cable tray system supported from main structure or mounted to wall.
- H. Where building construction is inadequate, provide additional acceptable framing after review.
- I. **Do not** tie in to any existing trapeze unit strut or any smooth wire supporting any other trades items. You must support your own product.
- J. Fittings: O.Z./Gedney, T & B, Bridgeport, RACO Steel City, Appleton, Crouse Hinds.
- K. Supports; Super strut, UNISTRUT.
- L. Fasteners: Caddy, Rawl, Philips Redhead, Panduit, Hilti

## **M. MARKING AND IDENTIFYING**

- 1. Cat 5e – Cat 6e data wire must be mark at both ends with a self-laminating wire and cable marking. Identify the location of the wires termination.
- 2. Cat 5e – Cat 6e data wire must be strap in a bundle with nylon cable ties.  
 Cabling should be secured and placed in a manner which prevents kinking and tight cinching. Do not excessively bend the cable greater than four times the cable diameter.
- iii. Acceptable manufactures, similar to:
  - A. 3M, Brady, Thomas & Betts, Panduit,

## **N. GENERAL**

- A. Contactor shall confirm previous work which could affect this contract. Should Contractor not confirm existing conditions and / or scope of work, no revisions in the contact price shall be considered – even though this is total new construction.
- B. Set and layout work on premises. Base all measurements' from bench marks and correct setting or work to agree with established lines and levels. Should discrepancy exist between actual measurements and those, indicated, notify Hidalgo County Sheriff Office in writing

and do not proceed with work affected until written instructions are received from the Hidalgo County Sheriff Office.

- C. All minor appurtenance not specifically mention herein that are necessary to make a complete working installation, are included in the work with any necessary field engineering or detail drawings required. Submit Drawings as specified.
- D. Install equipment, rigid and secure, plum and level, and in true alignment with related and adjoining work. No welding of electrical materials for attachment or support is permitted.
- E. Provide templates, layout drawings, and supervision to ensure correct placing of anchorage items in concrete, and check embedded items for correctness of location and detail before concrete is placed.
- F. Provide supporting members as required to set and connect rigidly the work.
- G. Correct noise and vibration exceeding specified limits or due to faulty equipment at no expense to Owner.
- H. Changes of magnitude involving extra cost: not allowed without written approval of the Hidalgo County Sheriff Office.
- I. Group concealed equipment requiring access with equipment freely accessible through access doors.
- J. Cutting shall conform to requirements in the Section dealing with cutting.
- K. Patching shall conform to requirements in Section dealing with patching.

## **O. HEIGHT OF OUTLETS**

- A. Height of outlets from finished floor to top of outlet box for:
  - 1. Receptacle and telephones: 1 foot 6 inches.
  - 2. Wall switches – wall telephones: 4 feet, 0 inches.
  - 3. Inmate Cell – wall telephone: use the existing j-box opening in cell.
  - 4. Exceptions:
    - A. At junction of different wall finish materials.
    - B. On molding or break in wall surface.
    - C. Where the above height do not meet the requirements of the applicable code.
- B. Placement Standards:
  - 1. Duplex Convenience / TV / Telephone Outlets; vertically oriented.
  - 2. Gang outlets where possible. Where ganging is not possible, locate as tightly together, as possible, and equally spaced.
  - 3. Align vertically outlets of different types, shown adjacent on plan, but are of different mounting heights.

## **P. INSTALLATION OF RACEWAYS**

- A. Run conduits concealed, except as noted.
- B. Supports:
  - 1. Ceiling trapeze, strap hangers, or wall brackets.
  - 2. U-bolt or pipe straps at each floor level of riser raceways.
  - 3. Secure conduits to supports with pipe straps or U-bolts.
  - 4. Maximum spacing; 10 feet on centers for metallic and raceways.
  - 5. Mount supports to structure with:
    - A. Hilti shot nails on masonry block.
    - B. Expansion shield or insets on concrete – shot inserts only if approved.
    - C. Self threading anchor
    - D. Hammer drive insert lead anchor, poly-set anchor, lag-expansion shield.
    - E. Plastic and metal wallboard anchors, hollow wall and metal anchors.
    - F. Machine screws on metal
    - G. Wood screws on wood
    - H. Nails, rawl plugs or wood plugs; not permitted.
  - 6. Acceptable manufactures, similar to:

- A. ITW- Ramset- Redhead, Greenlee, HILTI, Wej-it,
- B. Ream and eliminate burr from cut conduit.
- C. Maintain cross sectional area of conduit bends with that of straight runs.
- D. Route exposed conduits with or at right angles to walls. No conduit exposed in fishes spaces.
- E. Clearances from water, steam or other piping: Minimum three inches separation from hot water pipes, except four inches from pipe cover at crossings.
- F. Keep raceways clear motor foundations and underside of boilers.
- G. Support ceiling hung branch circuit conduits on ceiling suspension systems only if suspension system is designed and approved to support branch circuit conduit. If so approved use Caddy clips, or Approved equal, designed to support conduit.
- H. Route conduit in walls vertically or horizontally. Diagonal runs not permitted.
- I. Empty conduits: In walls or conduits in concrete slabs are for future use; **Do not use these conduits.**
- J. Seals around conduit penetration through fire rated walls and floor on both sides and proved fire rated, UL Listed sleeve assemblies and fire rated compound consistent with rating of penetrated fire rated walls and floors.
- K. Outlet boxes:
  - 1. Set square and true with building finish and secure to building structure by adjustable strap irons.
  - 2. Verify outlets locations in finished spaces with Drawings of interior detail and finishes.
  - 3. Provide barriers between switches connected to different phase for voltages exceeding 150 volts to ground.
- L. Panel, Junction and pull boxes:
  - 1. Location: not permitted exposed in finished space unless approved by Hidalgo County Sheriff Office. Maintain accessibility and clear of other work.
  - 2. Support from building structure, independent of conduit.
  - 3. Outlet boxes for fixture recessed in hung ceiling; accessible through opening created by removal of fixture.

## Q. INSTALLATION OF WIRE AND CABLE

- A. 600 VOLT CABLE:
  - 1. All wire and cable installed in raceway unless otherwise specified or indicated
  - 2. Pull no thermoplastic conductors at temperature lower 32 degrees F.
  - 3. Pull wire only after race way and termination boxes are installed.
  - 4. Circuiting shown on plan is for number of devices or fixture per circuit. Circuits can be combined provided raceway size and derating factors are in compliance with NEC.

## R. INSTALATION OF LOW VOLTAGE DISTRUBUTION EQUIPMENT

- A. Panelboards: Install as following:
  - 1. Circuit numbers indicated on drawings and panel schedules are for identification purpose only. Provide actual circuit numbers upon installation of work and indicate in panelboard directory as installed.
  - 2. Provide “subfeed” or “feed-through” multi-cable lugs where required.
  - 3. Mounting height; Maximum 6 feet 6 inches from floor to top switch unit.

## S. CLEANING

- A. Brush and clean work prior to concealing, painting and acceptances. Performed in stages if directed on all finished painted electrical equipment.
- B. Clean and repair soiled or damaged painted exposed work and match adjoining work before final acceptance. Use factor touch-up supplied on equipment.
- C. Remove debris from inside and outside of material, equipment and structures.

**T. OWNER'S INSTRUCTION on OPERATION and MAINTENANCE of ELECTRICAL SYSTEMS.**

1. Present owner's representatives with four (4) Operational and Maintenance Manuals.
2. Demonstrate operation and Maintenance and Operational of Electrical System to owner's designated Operation and Maintenance personnel.
3. Present owner's designated Maintenance and Operational personnel with electrical spare parts.

**Section VI: LEGAL DOCUMENTS**

If applicable, the Firm is to include any standard agreement(s) and/or contracts associated with their response.

**Section VII: MISCELLANEOUS;**

State exemptions to any of the requirements in this procurement packet, if any. Any additional information the firm deems appropriate to the response may be included in this section.