



# Department of Administrative Services

## Purchasing and Contracts

500 S Grand Central Pky 4th Fl • Box 551217 • Las Vegas NV 89155-1217  
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Sabra Smith Newby, Chief Administrative Officer  
Adleen B. Stidhum, Purchasing Manager



### CLARK COUNTY, NEVADA BID NO. 603607-15 GOVERNMENT CENTER EMPLOYEE PARKING LOT ACCESS CONTROL IMPROVEMENT

March 5, 2015

#### ADDENDUM NO. 1

#### INVITATION TO BID

1. The bid opening date of March 12, 2015 at 2:15:00 p.m. **has been changed to March 20, 2015 at 2:15:00 p.m.**

#### SITE VISIT

2. A site visit has been scheduled for Monday, March 9, 2015 at 8:30 a.m. Meeting place will be at the Clark County Government Center Main Entrance located at 500 Grand Central Parkway Las Vegas, Nevada 89155.

#### SPECIFICATIONS:

3. Specification Section 01 11 00 Summary of Work; Paragraph 1.02 Contract Description; **Insert paragraph C as follows:**
  - C. Johnson Controls Inc. (JCI) Scope of Work includes:
    1. Provide electrical labor to install two multi-class readers.
    2. Provide labor to install two gate interface relays.
    3. Provide labor to program on to the existing County network.
    4. Coordinate with badging personnel on adding new readers into P2000.
    5. Provide electrical labor to install new control module located in the Government Center, Central Plant Building.
    6. Coordinate with Gate Company on reader interfacing.
    7. Attend coordination meetings.
    8. Prevailing wage is included in scope of work.
4. **Delete** original Specification Section 28 13 00 Access Control in its entirety and **replace** with the attached revised Section 28 13 00.

#### DRAWINGS:

5. **Delete** the original Sheet E1.01 Enlarged Electrical Plans in its entirety and **replace** with the attached revised Sheet E1.01 Enlarged Electrical Plans.

**BOARD OF COUNTY COMMISSIONERS**  
STEVE SISOLAK, Chairman • LARRY BROWN, Vice Chairman  
SUSAN BRAGER • TOM COLLINS • CHRIS GIUNCHIGLIANI • MARY BETH SCOW • LAWRENCE WEEKLY  
DONALD G. BURNETTE, County Manager

**BID FORM:**

6. **Delete** the original Bid Form pages 4-1 through 4-4 and **replace** with the attached revised Bid Form pages 4-1 through 4-4.

Except as modified herein all other bid specifications, terms and conditions shall remain the same.

ISSUED BY:

A handwritten signature in black ink, appearing to read "Sandy Moody-Upton", written in a cursive style.

SANDY MOODY-UPTON  
Purchasing Analyst II

Attachments: Revised Bid Form Pages 4-1 through 4-4  
Revised Specification Section 28 13 00, Access Control  
Revised Sheet E1.01 Enlarged Electrical Plans

Cc: Chuck James, Real Property Management  
Brian Connolly, Real Property Management  
Peter Umoh, Real Property Management  
Jason Calhoun, Poggemeyer Design Group

# CLARK COUNTY, NEVADA

## BID FORM

BID NO. 603607-15

GOVERNMENT CENTER EMPLOYEE PARKING LOT ACCESS CONTROL IMPROVEMENT

PWP NUMBER: CL-2015-139

REVISED PER ADDENDUM NO. 1

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(NAME)

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(ADDRESS)

### I, THE UNDERSIGNED BIDDER:

1. Agree, if awarded this Contract, I will complete all work for which a Contract may be awarded and to furnish any and all labor, equipment, materials, transportation, and other facilities required for the services as set forth in the Bidding and Contract Documents.
2. Have examined the Contract Documents and the site(s) for the proposed work and satisfied themselves as to the character, quality of work to be performed, materials to be furnished and as to the requirements of the specifications.
3. Have completed all information in the blanks provided and have submitted the following within this Bid:
  - a) Have listed the name of each Subcontractor which will be paid an amount exceeding five percent (5%) of the Total Base Bid amount.
  - b) Attached a bid security (in the form of, at my option, a Cashiers Check, Certified Check, Money Order, or Bid Bond in favor of the Owner in the amount of five percent (5%) of the Total Base Bid amount.
  - c) If claiming the preference eligibility, I have submitted a valid Certificate of Eligibility with this Bid.
4. I acknowledge that if I am one of the three apparent low bidders at the bid opening, and if I have listed Subcontractor(s) pursuant to NRS 338.141, I must submit Bid Attachment 2 within two-hours after completion of the bid opening pursuant to the Instructions to Bidders, forms must be submitted via hand delivery or email to [COUNTPURCHASING@CLARKCOUNTYNV.GOV](mailto:COUNTPURCHASING@CLARKCOUNTYNV.GOV) and I understand that hand delivery is recommended, and Owner shall not be responsible for lists received after the two-hour time limit, regardless of the reason. I understand that submission after the two-hour time limit is not allowed and will be returned to me and the bid will be deemed non-responsive. I acknowledge that for:
  - a) Projects UNDER \$5,000,000  
I need to list **only those Subcontractors** that will provide labor/improvements exceeding \$50,000.00.
5. I acknowledge that if I am one of the three apparent low bidders at bid opening, and if I have submitted a valid Certificate of Eligibility as described in 3.c above, I must submit Bid Attachment 3, Affidavit Pertaining to Preference Eligibility, within two-hours after completion of the bid opening pursuant to the General Conditions. The forms must be submitted via hand delivery or email to [COUNTPURCHASING@CLARKCOUNTYNV.GOV](mailto:COUNTPURCHASING@CLARKCOUNTYNV.GOV) and I understand hand delivery is recommended. Owner shall not be responsible for lists received after the two-hour time limit, regardless of the reason. I understand that submission of the Certificate after the two-hour time limit is not allowed and it will be returned to me and the bid will be deemed non-responsive.
6. I acknowledge that if notified that I am the low bidder, I must submit the Disclosure of Ownership/Principals form within 24-hours of request.
7. I acknowledge that if I am one of the three apparent low bidder(s) for the base bid at the bid opening, I must submit the Bid Attachment 4, Schedule of Values, by 12:00 Noon of the next business day.
8. I acknowledge that my bid is based on the current State of Nevada prevailing wages.
9. I acknowledge that I have not breached a public work contract for which the cost exceeds \$25,000,000, within the preceding year, for failing to comply with NRS 338.147 and the requirements of a contract in which I have submitted within 2 hours of the bid opening an Affidavit pertaining to preference eligibility.

**Bid Form**  
**Bid No. 603607-15**  
**Government Center Employee Parking Lot Access Control Improvements**  
**Revised per Addendum No. 1**

10. Upon faxed or mailed receipt of a Notice of Intent to Award the Contract, I will provide the following submittals within seven business days from receipt of the Notice:
- a) Performance Bond, Labor and Material Payment Bond and a Guaranty Bond, for 100% of the Contract amount as required.
  - b) Certificates of insurance for Commercial General Liability in the amount of \$1,000,000, Automobile Liability in the amount of \$1,000,000, and Workers' Compensation insurance issued by an insurer qualified to underwrite Workers' Compensation insurance in the State of Nevada, as required by law.
11. I acknowledge that if I do not provide the above submittals on or before the seventh business day after receipt of the Notice of Intent to Award; or do not keep the bonds or insurance policies in effect, or allow them to lapse during the performance of the Contract; I will pay over to the Owner the amount of **\$250** per day as liquidated damages.
12. I confirm this bid is genuine and is not a sham or collusive, or made in the interest of, or on behalf of any person not herein named, nor that the Bidder in any manner sought to secure for themselves an advantage over any bidders.
13. I further propose and agree that if my bid is accepted, I will commence to perform the work called for by the contract documents on the date specified in the Notice to Proceed and I will complete all work within the calendar days **specified in the General Conditions.**
14. I further propose and agree that I will accept as full compensation for the work to be performed the price written in the Bid Schedule below.
15. I have carefully checked the figures below and the Owner will not be responsible for any error or omissions in the preparation or submission of this Bid.
16. I agree no verbal agreement or conversation with an officer, agent or employee of the owner, either before or after the execution of the contract, shall affect or modify any of the terms or obligations of this Bid.
17. I am responsible to ascertain the number of addenda issued, and I hereby acknowledge receipt of the following addenda:
- Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_ Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_
- Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_ Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_
- Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_ Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_
- Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_ Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_
- Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_ Addendum No. \_\_\_\_\_ dated, \_\_\_\_\_
18. I agree to perform all work described in the drawings, specifications, and other documents for the amounts quoted below:

ITEM NUMBER	ITEM DESCRIPTION	LUMP SUM
1.	GOVERNMENT CENTER EMPLOYEE PARKING LOT ACCESS CONTROL IMPROVEMENT, AS SPECIFIED	\$
2.	PERMITS AND FEES BID ALLOWANCE	\$ 1,000
3.	CONSTRUCTION CONFLICTS AND ADDITIONAL WORK ALLOWANCE	\$ 20,000
4.	DUST CONTROL, AS SPECIFIED	\$
5.	STORMWATER POLLUTION, AS SPECIFIED	\$
6.	<b>JOHNSON CONTROLS INC</b>	<b>\$13,944.00</b>
	TOTAL BID AMOUNT	\$



19. BUSINESS ENTERPRISE INFORMATION:

The Prime Contractor submitting this Bid is a  MBE  WBE  PBE  SBE  VET  DVET  ESB as defined in the Instructions to Bidders.

20. BUSINESS ETHNICITY INFORMATION:

The Prime Contractor submitting the Bid Ethnicity is  Caucasian (CX)  African American (AA)  Hispanic American (HA)  Asian Pacific American (AX)  Native American (NA)  Other as defined in the Instructions to Bidders.

21. BIDDERS' PREFERENCE Is the Bidder claiming Bidders' Preference?

Yes If yes, the Bidder acknowledges that he/she is required to follow the requirements set forth in the Affidavit (Bid Attachment 3).

No **I do not have a Certificate of Eligibility to receive preference in bidding.**

22.

\_\_\_\_\_  
**LEGAL NAME OF FIRM AS IT WOULD APPEAR IN CONTRACT**

\_\_\_\_\_  
ADDRESS OF FIRM

\_\_\_\_\_  
CITY, STATE, ZIP CODE

\_\_\_\_\_  
TELEPHONE NUMBER

\_\_\_\_\_  
FAX NUMBER

NEVADA STATE CONTRACTORS' BOARD LICENSE INFORMATION:

I certify that the license(s) listed below will be the license(s) used to perform the majority of the work on this project.

LICENSE NUMBER: \_\_\_\_\_

LICENSE CLASS: \_\_\_\_\_

LICENSE LIMIT: \_\_\_\_\_

ONE TIME LICENSE LIMIT INCREASE \$ \_\_\_\_\_ IF YES, DATE REQUESTED \_\_\_\_\_

CLARK COUNTY BUSINESS LICENSE NO. \_\_\_\_\_

STATE OF NEVADA BUSINESS LICENSE NO. \_\_\_\_\_

\_\_\_\_\_  
AUTHORIZED REPRESENTATIVE  
(PRINT OR TYPE)

\_\_\_\_\_  
E-MAIL ADDRESS

\_\_\_\_\_  
SIGNATURE OF AUTHORIZED REPRESENTATIVE

\_\_\_\_\_  
TODAY'S DATE

## SECTION 28 13 00

### ACCESS CONTROL

#### PART 1 - GENERAL

##### 1.4 SUMMARY

- A. Access Control System Equipment:
  - 1. Access Control Panels.
  - 2. Contactless Card Readers.
  
- B. CONTRACTOR shall coordinate all design, installation and relocation required for security access card reader system, intrusion detection equipment and intercom equipment with Johnson Controls (sole source) per this specification section. The security system must be designed and installed by Johnson Controls and shall include all necessary tie-ins to and programming of the existing Johnson Controls Security Systems to ensure a completely functional system. This shall include, but not limited to, control panels (CK7XX), RDR door controls, card readers.
  
- C. Provide a complete security system for the areas shown on the design plans and as stated in this specification, including all necessary upgrades as required by authorities having jurisdiction and Clark County.
  - 1. CONTRACTOR is responsible for obtaining all applicable Building Department and OWNER's approval of plans and specifications for the security system.

##### 1.2 RELATED SECTIONS

- A. Section 26 05 19 – Low Voltage Electrical Power Conductors and Cables for Electrical Systems.
  
- B. Section 26 05 33 - Raceway and Boxes for Electrical Systems.

##### 1.3 REFERENCES

- A. Comply with all applicable codes and standards and the most current issue of the following publications, including all amendments thereto of the issue that is current on the date of contract award. Applicable requirements of the following publications shall apply to the work under this specification as if fully written herein. Where conflicts exist between the Technical Specification and the referenced publications, local codes shall govern.
  - 1. American Standards Association (ASA).
  - 2. Institute of Electrical and Electronic Engineers (IEEE).
  - 3. National Fire Protection Association (NFPA).
  - 4. National Electrical Manufacturers Association (NEMA).
  - 5. Underwriters Laboratories, Inc. (UL).
  
  - 6. Federal, State and Municipal Building Codes and all other Authorities having jurisdiction.
  - 7. National Electrical Code (NEC).
  - 8. Insulated Power Cable Engineers Association Specification (IPCEA).
  - 9. American Society for Testing Materials Specification (ASTM).
  - 10. Occupational Safety and Health Administration (OSHA).

11. National Electrical Safety Code (NESC).
12. Special attention shall be made to the following specific codes, standards, and publications where applicable:

<u>Sponsor</u>	<u>Number</u>	<u>Title</u>
ANSI	B20.1	Conveyor Safety.
ASTM	F.1468-93	Standard Practice For Evaluation.
EIA	232-D	Interface between Data Terminal Equipment and DataCircuit-Termination Equipment Serial Binary
EIA	RS-310-C	Racks, Panel, and Associated Equipment.
FAR	107	Airport Security.
FAR	108	Airline Security.
NFPA	72-D	Installations, Maintenance and Use of Proprietary Protective Signaling Systems.
NFPA	75	Protection of Electronic Computer Data Processing Equipment.
NFPA	77	Static Electricity.
NFPA	78	Lightning Protection Code.
UL	294	Access Control System Units.
UL	611	Central Station Burglar Alarm Units and Systems.
UL	634	Intrusion Detection Units.
UL	681	Installation and Classification of Mercantile and Bank Burglar Alarm Units.
UL	796	Electrical Printed-Wiring Boards.
UL	1076	Proprietary Burglar Alarm Units and Systems.

#### 1.4 DEFINITIONS AND ABBREVIATIONS

- A. Terms and abbreviations used in this specification document that are specific to the project, system, and equipment are defined as follows:
- B. Definitions:
  1. Availability - Percentage of a specified time interval that a system's operational functions are unimpaired.
  2. Maintainability - Probability that a failed item or system is restored to an operational-state in time that the item or system availability objectives are met.
  3. Reliability - Probability that a system or item of equipment performs as intended during a unit interval of time.

C. Abbreviations:

1. AFF: Above Floor Finish
2. ANSI: American National Standard Institute
3. ASCII: American Standard Code for Information Interchange
4. AOA: Aircraft Operations Area
5. ATP: Acceptance Test Plan
6. BMS: Balanced Magnetic Switch
7. CPU: Central Processing Unit
8. CCTV: Closed Circuit Television
9. EMI: Electromagnetic Interference
10. FAA: Federal Aviation Administration
11. FAR: Federal Aviation Regulation
12. IATA: International Air Transport Association
13. ICAO: International Civil Aviation Organization
14. ICEA: Insulated Cable Engineering Association
15. IDS: Intrusion Detection System
16. ISA: Instrument Society of America
17. LAS: IATA Symbol for McCarran International Airport
18. LCC: Life Cycle Costs
19. LED: Light Emitting Diode
20. MHz: Megahertz
21. MRT: Mean Restoral Time -- The mean interval between failure and Operational status; includes MTTR travel time and response time.
22. MTBF: Mean Time between Failures -- The mean interval that is the sum of MTTF and MRT.
23. MTTF: Mean Time to Failure -- The mean interval between placing a specific piece of equipment or system in service and its operational failure.
24. MTTR: Mean Time to Repair -- The mean interval during which the repair process is successfully performed.
25. O&M: Operations and Maintenance
26. PTZ: Pan, Tilt, Zoom
27. QA: Quality Assurance
28. QC: Quality Control
29. REX: Request to Exit
30. RFI: Radio Frequency Interference
31. SCC: Security Control Center
32. SCP: Security Control Panel
33. UBC: Uniform Building Code
34. UPS: Uninterrupted Power Supply
35. VDT: Video Display Terminal

1.5 RELATED SECTIONS:

- A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables: Execution requirements as required for Work of this Section.
- B. Section 26 05 26 - Grounding and Bonding for Electrical Systems: Execution requirements as required for Work of this Section.

## 1.6 PREINSTALLATION MEETINGS

- A. Section 01 31 19 – Project Meetings: Requirements for pre-installation meeting.
- B. Convene minimum one week prior to commencing Work of this Section.

## 1.7 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit catalog data showing electrical characteristics and connection requirements.
- C. Shop Drawings: Indicate system wiring diagram showing each device and wiring connection; indicate annunciator layout and sequence of operation.
- D. Manufacturer's Certificate: Certify that the products meet or exceed specified requirements.
- E. Manufacturer's Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
- F. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- G. Manufacturer Reports: Indicate activities on-Site, adverse findings, and recommendations.
- H. Qualifications Statements:
  - 1. Submit qualifications for manufacturer and installer.
  - 2. Submit manufacturer's approval of installer.

## 1.8 CLOSEOUT SUBMITTALS

- A. Section 01 77 00 - Closeout Procedures: Requirements for closeout procedures.
- B. Project Record Documents: Record actual locations of security access equipment.
- C. Operation and Maintenance Data: Submit manufacturer's standard operating and maintenance instructions.

## 1.9 MAINTENANCE MATERIAL SUBMITTALS

Section 01 77 00 - Closeout Procedures: Requirements for maintenance materials.

## 1.10 QUALITY ASSURANCE

- A. Provide wiring materials located in plenums with peak optical density not greater than 1/2, average optical density not greater than 3/20, and flame spread not greater than 5 feet (1.5 m) when tested according to NFPA 262.
- B. Maintain 1 copy of each standard affecting the Work of this Section on-Site.

## 1.11 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.
- B. Installer: Company specializing in performing Work of this Section with minimum three years' documented experience and approved by manufacturer.

## 1.12 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Deliver materials in manufacturer's packaging; include installation instructions.
- C. Inspection: Accept materials on-Site and inspect for damage.
- D. Store materials according to manufacturer's instructions.

## 1.13 EXISTING CONDITIONS

- A. Field Measurements: Verify field measurements prior to fabrication. Indicate field measurements on Shop Drawings.

## 1.14 WARRANTY

- A. Warranty Requirements: In accordance with General Conditions.
- B. Maintenance Requirements During Warranty Period:
- C. The following requirements shall apply to the CONTRACTOR responsible for performing security equipment related maintenance services of all items covered under warranty:
  - 1. Major System Failures
    - a. CONTRACTOR's maintenance personnel shall respond to all system failures within two (2) hours from the time OWNER attempts to notify the designated CONTRACTOR representative that remedial maintenance for the failures is required. All failures shall be corrected within eight (8) hours of the arrival on site of CONTRACTOR's maintenance personnel. For the purpose of this contract, failures are defined as follows:
      - 1. Complete failure of the components controlling the system security equipment or interfacing with existing system equipment.
      - 2. Complete or partial failure of a SCP, resulting in the loss of monitoring or reporting capability.
      - 3. Complete failure of the security equipment, resulting in loss of all system capability.
      - 4. Failure of security equipment, resulting in loss of use of installed access control stations (Card Readers).
  - 2. Minor System Failures
    - a. All other failures shall be considered minor failures. CONTRACTOR's maintenance personnel shall respond on-site to all minor system failures

within four (4) hours from the time OWNER notifies or attempts to notify the designated CONTRACTOR representative that remedial maintenance for minor failures is required. Minor failures shall be corrected within twenty four (24) hours of the arrival on site, of CONTRACTOR's maintenance personnel.

- b. OWNER agrees to call a CONTRACTOR-provided telephone number to effect CONTRACTOR notification of maintenance problems. OWNER shall make reasonable repeat attempts to make notification. However, response time requirements shall be measured from the time of the first attempt by OWNER to notify CONTRACTOR.
3. Spare Parts
    - a. Maintain an inventory of security equipment spare parts, materials, consumables, and any other system item in order to meet the specified warranty maintenance requirements and keep the security equipment in a continuous operational mode during the warranty period.

#### 1.5 MAINTENANCE SERVICE

- A. Furnish service and maintenance of the security system equipment and related components for one year from date of Completion. CONTRACTOR shall provide separate, written maintenance agreement to OWNER upon Completion of the project covering the one-year maintenance requirements.
- B. Examine security system equipment and related components semi-annually. Clean and adjust equipment as required. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original equipment.
- C. Provide emergency call-back service at all hours for this maintenance period.
- D. Maintain locally, near the Place of the Work, an adequate stock of parts for replacement or emergency purposes. Have personnel available to ensure the fulfillment of this maintenance service, without unreasonable loss of time.
- E. Perform maintenance work using competent and qualified personnel, under the supervision[and in the direct employ] of the Security Contractor.
- F. Maintenance service shall not be assigned or transferred to any agent or Subcontractor.

#### 1.6 EXTRA MATERIALS

- A. No extra materials are to be provided under this contract.

## **PART 2 PRODUCTS**

### 2.2 DESCRIPTION

- A. Security Access System: Control access to selected parking areas using both encoded cards and coded keypads.
- B. Parking lots: Control access into and out of parking lot's via boom gates the following exterior gates:

1. Main entrance door.
2. Employee entrance door.

## 2.3 CONTROL PANEL

- A. Manufacturer List:
  1. Acceptable Manufacturer:
    - a. LiftMaster
    - b. HySecurity
    - c. Magnetic Auto Control
- B. Description: Modular control panel with surface wall-mounted enclosure.
- C. Electrical Characteristics: As specified in Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables and following:
  1. 12 rated load amperes.
  2. Voltage: 120 V, AC, 60 Hz.
  3. Maximum Circuit Breaker Size 20 A.
- D. Power Supply:
  1. Adequate to serve control panel modules, card key readers, and door hardware devices.
  2. Furnish battery-operated emergency power supply with capacity for operating system in standby mode for 24 hours. Uninterruptible Power Supply:
    - a. Minimum six hours operation of control panel modules, card key readers, and door hardware devices.
    - b. Furnish visual indication of normal power operation, UPS operation, abnormal operation, and visual and audible indication of low battery power.
- E. Display:
  1. Fixed map display indicating layout of protected access points.
  2. Indicate status of each point using LEDs.
  3. Furnish LED test switch on map display.
- F. Zone Bypass Switch: Keyed switch.
- G. System Bypass Switch: Keypad function.
- H. Entry and Exit Time Delays: Adjustable.

## 2.4 CARD READERS

- A. Manufacturer List:
  - a. Multi Class Card reader
- B. Description:
  1. Access card readers using coded data stored in a compatible credential card.
  2. Proximity HDI Type.
  3. Credential Card Type: Wiegand

4. Furnish housing suitable for installation in cold weather as needed for operation at Project Site.

C. Mounting: Surface Pedestal.

## 2.5 KEYPADS

A. Manufacturer List:

- a. LiftMaster
- b. HySecurity
- c. Magnetic Auto Control

B. Description:

1. Alphanumeric, 12-digit tactile keyboard.
2. Communications protocol compatible with local processor.

C. Display:

1. Audible indicator display and user prompts.
2. Annunciate user prompts.
3. Limit horizontal and vertical viewing angles.

D. Mounting: Surface Pedestal.

## 2.6 WIRE AND CABLE

- A. Description: Non-power-limited cable, copper conductor, 150-V insulation rated at 60 degrees C

Cable Exposed in Plenums: Power-limited cable classified for fire and smoke characteristics; copper conductor; 300-V insulation rated at 105 degrees C; suitable for use in air-handling ducts, hollow spaces used as ducts, and plenums.

## PART 3 EXECUTION

### 3.2 EXAMINATION

- A. Section 01 77 00 - Closeout Procedures: Requirements for installation examination.
- B. Verify that Site conditions are in conformance with Contract Documents.
- C. Verify that surfaces to receive access control devices are ready for installation.

### 3.3 PREPARATION

- A. Section 01 77 00 - Closeout Procedures: Requirements for installation preparation.
- B. Maintain access to existing security access equipment, and other installations remaining active and requiring access, by modifying installation or providing access panel.

### 3.4 INSTALLATION

A. Compliance:

1. Install the equipment in accordance with the contract documents, all applicable codes and standards and the Manufacturer's written instructions. The installed system shall meet all applicable equipment and performance requirements.
- B. Standardization:
1. Standardize the installation practices and material to provide uniform materials and procedures to the maximum extent possible.
- C. Locations:
1. Locate pull boxes, wire-ways or other items requiring inspection, removal, or replacement conveniently and accessibly with reference to the finished facilities.
- D. Electrical Service:
1. Installation of electrical service to equipment shall conform to specific NEC Codes and Standards, NFPA 70, and other applicable requirements.
- E. Electrical Equipment Inspection:
1. Provide electrical equipment inspection in accordance with NEMA PB 2.1 Part VII.
- F. Installation Requirements:
1. Install all system components, including furnished equipment, and appurtenances in accordance with the manufacturer's instructions, and as shown, and shall furnish all necessary interconnections, services, and adjustments required for a complete and operable system as specified and shown. Control signal, communications, and data transmission line grounding shall be installed as necessary to preclude ground loops, noise, and surges from adversely affecting system operation.
  2. Install the security system equipment in accordance with the standards for safety, NFPA 70, UL 681, UL 1037 and UL 1076, and the appropriate installation manual for each equipment type. Components within the system shall be configured with appropriate service points to pinpoint system trouble in less than 20 minutes.
  3. All wiring, including low voltage wiring outside the control console, cabinets, boxes, and similar enclosures, shall be installed in rigid galvanized steel conduit conforming to UL 6 (when outdoors), or electric metallic tubing (EMT) when indoors. Minimum conduit size shall be 3/4 -inch. All other electrical work shall be as specified with electrical specifications and drawings that are part of the contract document and as shown. Grounding shall be installed as necessary to preclude ground loops, noise, and surges from adversely affecting system operation.
    - a. Detailed shop drawings shall be provided as part of the submittal process. The shop drawings shall include, but not be limited to exposed conduit and devices, including hangars, brackets, back boxes and related equipment.
  4. All equipment connected to alternating current circuits shall be protected from power line surges. Equipment protection shall meet the requirements of ANSI C62.41. Fuses shall not be used for surge protection.
  5. All inputs shall be protected against surges induced on device wiring. Outputs shall be protected against surges induced on control and device wiring installed outdoors and as shown. All communications equipment shall be protected against surges induced on any communications circuit. All cables and conductors, except fiber optics, which serve as communications circuits from the existing access control CPU to field equipment, and between field equipment, shall have surge protection circuits installed at each end. Protection shall be furnished at equipment, and additional triple electrode gas surge protectors rated for the application on each wire-line circuit shall be installed within 3 feet of the building cable entrance.

Fuses shall not be used for surge protection. The inputs and outputs shall be tested in both normal mode and common mode using the following two wave-forms:

- a. A 10 microsecond rise time by 1000 microsecond pulse width wave-form with a peak voltage of 1500 volts and a peak current of 60 amperes.
  - b. An 8 microsecond rise time by 20 microsecond pulse width wave-form with a peak voltage of 1000 volts and a peak current of 500 amperes.
6. Calibrate all equipment.
  7. Inspect each component, determine obvious defects, and correct.
  8. All electrical work shall be in accordance with Section 260000.
  9. Test ground rods in accordance with IEEE No. 142.
  10. Perform tests as recommended by manufacturer or as required to ensure the security equipment is operating properly and meets specified requirements.
  11. Correct all deficiencies detected and retest affected components.
  12. Record test data, tabulate, and write narrative describing tests, results, deficiencies found, corrective measures, and results of retesting. Certify that the security equipment has been tested and is ready for performance verification testing.
  13. Use Permanent Room Numbers as indicated on the Room Finish Schedules for construction period identification of rooms and building spaces. All required shop drawings and submittals, including manuals and Project Record Drawings shall identify rooms and spaces using the Permanent Room Numbers. Permanent identification devices including signage, equipment nameplates, and panels shall use the Permanent Room Numbers.
  14. Coordinate delays egress emergency exist hardware requirements with Division 8.

### 3.5 REPAIR/RESTORATION

- A. Remove exposed, abandoned security access wiring. Cut cable flush with walls and floors, and patch surfaces.
- B. Disconnect and remove abandoned security access equipment.
- C. Maintain access to existing access control equipment, and other installations remaining active and requiring access, by modifying installation or providing access panel.
- D. Clean and repair existing security access equipment to remain or to be reinstalled.

### 3.6 FIELD QUALITY CONTROL

- A. General:
  1. Conduct an Installation Test and total Acceptance Test upon completion of equipment installation. Testing shall be coordinated as necessary, to demonstrate that all interfaces have been successfully implemented.
- B. Installation and Acceptance Test Procedures and Reports:
  1. General:
    - a. Installation and acceptance tests shall be conducted in the normal operational environment to the maximum extent possible. The tests shall represent operation in the normal mode in which each system will operate. If interfaces are incomplete, provide simulation of those interfaces so that the system may

be tested as a complete and stand-alone entity. Perform all equipment repair and/or adjustment that may be required during acceptance testing.

2. Availability Tests:

- a. Installation and acceptance testing shall include conducting individual availability tests for each equipment item. Requirements for availability tests are as follows:
  1. Availability shall be determined in accordance with Quality Assurance procedures, except for the test duration as specified herein.
  2. The availability tests shall consist of the equipment being operated as a complete stand-alone entity with the exception that incomplete interfaces may be simulated. In all other respects, the equipment shall be operated in the mode that would normally prevail.
  3. The duration of each availability test, as a minimum, shall consist of a 5 day period with the availability ratios of 100% being met or exceeded over the total period.
  4. Demonstration of equipment reliability shall be accomplished as part of, and in support of, availability testing. This demonstration shall verify that predicted reliability has been realized by measured Mean Time Between Failure (MTBF).
  5. Demonstration of equipment maintainability shall also be accomplished as part of, and in support of, availability testing. In this demonstration, verify that the objectives of the maintainability program have been realized by measured Mean Time To Repair (MTTR). The maintainability demonstration shall include preparation and use of a failure log.
  6. Equipment preventive maintenance or service shall be excluded from measurement of maintainability. However, CONTRACTOR shall conduct at least one period of preventive maintenance during availability testing to demonstrate compliance with the maintenance plan.
  7. Submit availability test reports to OWNER for review. Test reports shall include tabulations of MTBF and MTTR.

C. System Commissioning:

1. General:

- a. CONTRACTOR shall be responsible for ensuring that the installation and related interfaces is completed and operational at least thirty (30) days prior to scheduled beneficial occupancy. In the event the installation and related interfaces is not completed and operational by the scheduled beneficial occupancy date, CONTRACTOR shall establish and submit a security plan to OWNER that complies with FAR Part 107.14 and related OWNER security requirements. The security plan shall be submitted to OWNER and FAA for approval. The security plan, revisions, and security measures to be deployed until such time the new security equipment is completed and operational shall be at CONTRACTOR's expense.
- b. After all installation and acceptance test requirements specified have been complied with, the equipment shall be commissioned. After commissioning has been completed, OWNER will take possession of the equipment and utilize it in accordance with the conditions described in the contract documents.

2. Prerequisites To System Commissioning:

- a. Outstanding work items that may exist, such as facility interfaces, project record drawings, and/or in-process change orders, shall be documented and submitted to OWNER for review prior to start of equipment commissioning. Documentation of outstanding work items shall take the form of punch lists of critical action items lists that describe the work, the expected completion schedule, and the impact upon operation. Depending upon the nature of the outstanding work item, OWNER may grant a waiver to accomplish partial commissioning of any of the equipment. Completion of waived outstanding work items shall then be assigned to the post-commissioning operations and maintenance.
- 3. Commissioning Procedure:
  - a. The commissioning procedure shall be witnessed by OWNER. The commissioning procedure shall be conducted by CONTRACTOR and shall consist of a detailed inspection, and physical accounting of each equipment item. An operational demonstration shall then be conducted in which the equipment shall function in the normal operational mode, and shall operate completely error-free in terms of hardware and software performance. Occurrence of any equipment failure shall terminate the demonstration. The demonstration shall restart and run for a period of time designated by OWNER after the failure has been corrected. Except for any outstanding work items as previously described, this shall complete the commissioning procedure.

### 3.7 OPERATIONS AND MAINTENANCE DOCUMENTATION

- A. Provide OWNER with applicable Operations and Maintenance (O&M) manual(s) that describe the equipment installed under this contract. The O&M manual(s) shall, as a minimum, consist of an operations section, a maintenance section, and a drawings section when necessary.
- B. Documentation:
  - 1. Except as otherwise specified, all documentation shall contain sufficient written text and illustrations necessary to present a full description of the equipment, including an overview, concept of operation and/or maintenance, operating instructions using all functions and capabilities, and interfaces with other systems/subsystems. The requirements are as follows:
  - 2. System Description:
    - a. Describe as Installed. Fully describe the equipment as installed. Present a complete, organized, and comprehensive overview of the entire equipment. Information presented shall include, but not be limited to the following:
      - 1. Equipment overview description, theory of operation.
      - 2. Overview of recommended equipment operating policies.
      - 3. Summary plans, layouts, and block diagrams, as appropriate.
      - 4. Interrelationships overview of each item of equipment with other systems and subsystems, equipment, utilities, or other installations.
      - 5. Significant characteristics of the equipment.
      - 6. Other information, as necessary, to achieve a thorough understanding of the operation of the equipment.

- b. Equipment Functions. Provide a full and comprehensive discussion of the function of each primary item of equipment.
- c. Equipment Illustrations. Provide line drawings, renderings or photographic illustrations of each item of equipment. Illustrations shall include assemblies, subassemblies, and major components. All operating features shall be clearly identified by name and location on the equipment.
- d. Special or Non-Standard Installations. In situations where off-the-shelf items of equipment are combined into special or non-standard installations, provide separate sections containing complete operation related information for each non-standard or specialized configuration of equipment as installed.
- e. Operating Instructions. Operating instructions shall be clear, simple, and concise for each item of equipment to be used by operating personnel for day-to-day operation. It shall be in such format that photocopy of operating instructions for the item of equipment could be provided to operation for use. Operating instructions shall consist of:
  - 1. Warning Information. Provide emergency or special warnings, instructions and procedures pertaining to the equipment.
  - 2. System Operation. Provide sequential, step-by-step instructions on how to properly perform all operational tasks and procedures associated with equipment operation, in any mode, under both normal and abnormal and emergency conditions. Also, instructions on how the operator may test the equipment to verify correct operation, detect and identify malfunctions, and return the equipment to normal operation.
  - 3. Equipment Performance. Provide equipment operational limitations and how it shall be operated to obtain the best performance. If applicable, also provide instructions on how to modify equipment performance to suit individual needs or conditions.
- f. Drawings. Provide all drawings, illustrations, and equipment related reference materials not provided elsewhere within the manual(s). This documentation shall be assembled in the manner specified herein, shall be listed in Table of Contents, and shall contain the following information as a minimum:
  - 1. Mechanical drawings showing dimensions.
  - 2. Schematic drawings and diagrams for each item of equipment.
  - 3. Equipment schematic drawings.
  - 4. CONTRACTOR shall ensure that the latest project record drawings are incorporated in all final copies of manuals as part of the Completion of Work; and shall update these in all copies to reflect any changes made during Maintenance.
  - 5. Interface drawings.
  - 6. Other related documentation.

### 3.8 PROTECTION

- A. Fragile Items:
  - 1. Handle any fragile items with care using protective coverings to avoid damage to sensitive instrument relays, and other devices, and to avoid contamination by dirt and debris.
- B. Weather and Construction Protection:

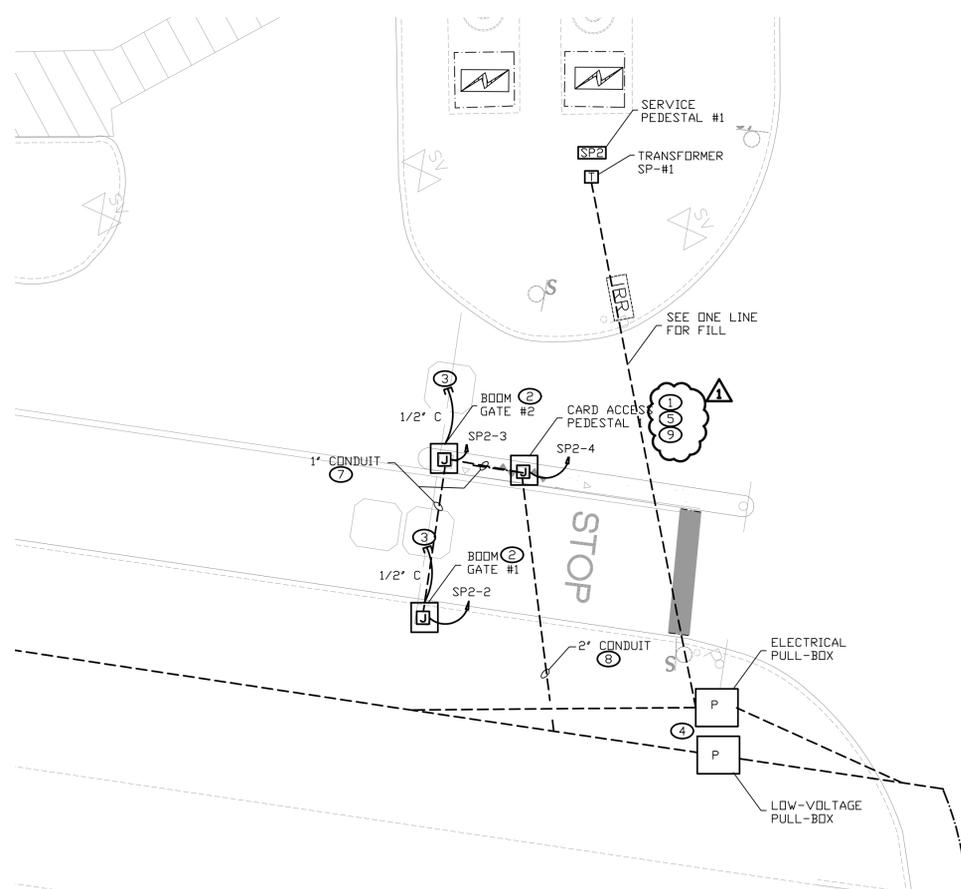
1. During installation, provide adequate temporary dust and weather protection for allequipment. Reinstall covers each time any adjustments are made on the equipment.
2. Field mounted instruments and accessories shall be properly protected.

### 3.9 SCHEDULES

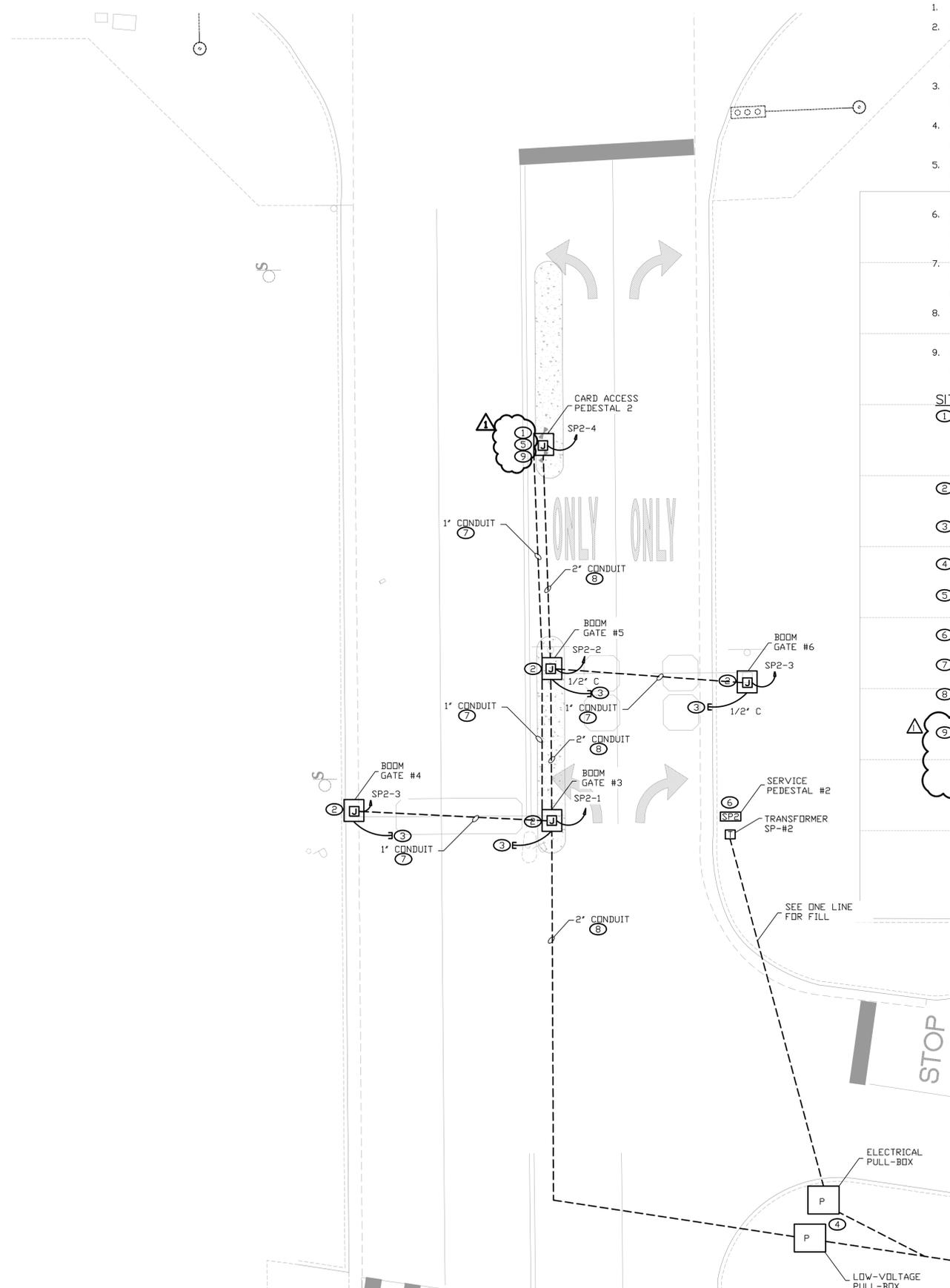
- A. Verify schedules and the commissioning date in which work will be performed. Immediately bring to the attention of OWNER any schedule slippage or change in start-up/ commissioning date that will affect CONTRACTOR's schedule.

END OF SECTION

1-2014-1-15 Government Center Gate and Card Reader/Transformer, Center Gate and Card Reader/Transformer, ENLARGED ELECTRICAL PLAN, Rev. 04-2015 - 6/30/15



**1 ENLARGED ELECTRICAL PLAN ENTRANCE #2**  
 E1.01 SCALE: 1/8" = 1'-0"



**2 ENLARGED ELECTRICAL PLAN ENTRANCE #1**  
 E1.01 SCALE: 1/8" = 1'-0"

- GENERAL SITE PLAN NOTES:**
- SLOPE ALL CONDUITS 1% AWAY FROM BUILDING.
  - PROVIDE AND INSTALL A CHRISTY PULLBOX CAT #B1730BDX WITH COVER CAT #B1730-S1JH FOR ALL IN-GROUND PULL BOXES. USE CAT #B1730X12 EXTENSIONS AS NECESSARY FOR 24" DEPTH.
  - LOW VOLTAGE IN-GROUND PULLBOXES SHALL HAVE A MINIMUM DEPTH OF 24 INCHES. PROVIDE EXTENSIONS AS NECESSARY.
  - ALL LOW VOLTAGE UNDERGROUND CONDUITS SHALL BE INSTALLED A MINIMUM OF 24" BELOW GRADE (MEASURED FROM TOP OF CONDUITS).
  - COORDINATE ROUTING OF UNDERGROUND CONDUITS WITH LANDSCAPING CONTRACTOR TO MAINTAIN 5'-0" CLEARANCE FROM TREE WELLS AND PLANTERS.
  - IDENTIFY EACH LOW-VOLTAGE SERVICE BY MARKING PULL BOX COVERS WITH REQUIRED PAINT. ENSURE MARKINGS ARE NOT VISIBLE FROM GROUND.
  - FURNISH AND INSTALL A PULL BOX AFTER EVERY TWO 90 DEGREE BENDS / SWEEPS IN A CONDUIT RUN. A PULL BOX SHALL NEVER BE USED IN LIEU OF A BEND / SWEEP.
  - ALL SURFACE MOUNTED CONDUIT PATHWAYS ARE TO BE PAINTED TO MATCH SURROUNDING SURFACES.
  - PROVIDE AIR-VACUUM EXCAVATING TRENCHING, SAWCUTTING, PATCHING AND SURFACE REPAIR AS REQUIRED TO INSTALL UNDERGROUND CONDUITS.

- SITE PLAN KEY NOTES:**
- PROVIDE PEDESTAL DOORWORK (DESIGNER OFFSET 1200-086 WITH OPTIONAL 1200-087 LIGHT TOWER) OR EQUIVALENT FOR HOUSING THE KEY PADS, PROXIMITY CARD READER AND LIGHT. REFER TO THE ARCHITECTURAL SHEETS FOR ADDITIONAL INFORMATION. INSTALL PER THE MANUFACTURE SUGGESTED METHODS.
  - PROVIDE BOOM GATE AS REQUIRED REFER TO THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
  - PROVIDE 1/2" C STUB OUT BELOW GRADE FOR VEHICLE LOOP. COORDINATE SAW CUT OF ASPHALT WITH LOOP REQUIREMENT.
  - PULL BOX - SEE DETAIL SHEET E2.01 FOR INSTALLATION INFORMATION
  - PROVIDE AND INSTALL ALL LOW-VOLTAGE CABLE FOR THE TWO KEYPADS AND A PROXIMITY CARD READER TO EACH PEDESTAL AS REQUIRED BY THE MANUFACTURE
  - REFER TO THE DETAIL 6 ON SHEET E2.01 FOR ADDITIONAL INSTALLATION INFORMATION.
  - PROVIDE A 1" CONDUIT AND ROUTE THE CONTROL CABLE PER THE MANUFACTURE RECOMMENDATIONS.
  - PROVIDE A 2" CONDUIT AND FILL WITH THE MANUFACTURE SUGGESTED RECOMMENDED CABLE FOR CONTROL BACK TO THE SECURITY CONTROL ROOM IN THE MAINTENANCE BUILDING
  - PROVIDE AND INSTALL A KEY PAD AND CARD READER AT EACH PEDESTAL PER THE THE MANUFACTURE SUGGESTED METHODS. REFER TO THE SPECIFICATION FOR ADDITIONAL INFORMATION. COORDINATE THE EXACT LOCATION ON THE PEDESTAL WITH THE OWNER PRIOR TO INSTALLATION.

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REVISIONS	BY	DATE
ADDENDUM # 1	JVA	03-04-2015

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 PG #4075-C

DESIGNED BY:	JVA
DRAWN BY:	JVA
SCALE:	AS NOTED
DATE:	OCTOBER, 2014

CLARK COUNTY  
 DEPT OF REAL PROPERTY MANAGEMENT  
 ACQUISITION, DESIGN, & CONSTRUCTION DIVISION  
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 Las Vegas, Nevada  
 (702) 455-4921



PROFESSIONAL ENGINEER-STATE OF NV  
 THOMAS M. ANDERSON  
 Exp: 12-31-16  
 ELECTRICAL  
 License No. 13946  
 March 4, 2015

CLARK COUNTY GOVERNMENT  
 CENTER EMPLOYEE PARKING LOT  
 - ACCESS CONTROL IMPROVEMENTS  
 ENLARGED ELECTRICAL PLANS

SHEET  
 E1.01