ADDENDUM NUMBER ONE

DATE: 11/13/18

Clay Electric Cooperative, Inc – New District Office in Keystone Heights, FL (3702.150)

Brame Heck Architects Inc. 606 Northeast First Street Gainesville, FL 32601 Phone (352) 372-0425 FAX (352) 372-0427

TO:	All bidders of record, persons, plan rooms and agencies who have received Drawings and Specifications. <u>NOTE</u> : It is the responsibility of all General Contractors to notify their subcontractors and suppliers of all addendum changes, clarifications and/or additions to the Specifications and Drawings.
PURPOSE:	To make certain changes, clarifications and/or additions to the Specifications and Drawings. Items refer to that portion of the Specifications or Drawings where item is discussed or shown. This listing is to establish the intent of the necessary modifications to the Documents and should not be considered an exhaustive listing of the locations or extent of these changes.
ACKNOWLEDGMENT:	All Contractors submitting Proposals on this work shall acknowledge receipt of the Addendum by inserting the number and date in their Proposals.

GENERAL:

Item 1 Due to the Thanksgiving holiday an additional day has been added for bidding. Bids are now due to Dave Loper at Clay Electric on November 27th, 2018 by 2:00pm.

SPECIFICATIONS: Make the following changes and/or additions:

Table of Contents

Item 2 On page V, add Division 27 – TELECOM and under it specification <u>270713</u> <u>Telephone, Computer and Television systems.</u>

Section 02221 – Building Demolition

Item 3 Add the following subparagraph under paragraph 3.4 DEMOLITION, GENERAL

E. Hydraulic Elevator:

1. Properly remove and dispose of the hydraulic fluid to avoid any leaking of the fluid into surrounding soils, and then excavate and remove the hydraulic jack.

2. Remediate any minor leaking resulting from the removal process by direct excavation.

3. If fluid is noted in the soils due to the presence of existing prior leakage, soils shall be excavated and removed with a sample collected for Total Recoverable Petroleum Hydrocarbons (TRPH.)

Section 270713 – Telephone, Computer and Television systems

- **Item 4** Add Attached Specification 270713 Telephone, Computer, Television systems to the end of specification manual dated 10/25/18.
- **DRAWINGS**: Make the following changes and/or additions:

Sheet C4.00

- Item 5 The detectable warning surface indicated on the Handicap Parking Ramp Detail is to be a 2'x5' surface mounted heavy duty fiberglass composite mats (blue)
- Item 6 At U-shaped Bike Rack detail revise note to read: "2 O.D. galvanized steel pipe with black powder coated finish."

Sheet A1.1

Item 7 Replace original sheet A1.1 and replace with new attached sheet A1.1 with revision date 11/12/18.

-Doors 104 and 112 to be regular HM frame type F2 as indicated on the door schedule. An alum storefront interior window "I" (3'-2" x 5'-2") has been added 12" off doors 104 and 112.

-Door 100A has been added to the floor plan in service office 112 on the south wall. Door size has been revised to (4) panels x 96" tall sliding glass door for an overall opening of 120".

Sheet A1.2

Item 8 At detail 4G/A1.2 RCP, strike the words "& backed insulation" from the note Exposed Purlins.... (No insulation required at covered parking metal building)

Sheet A2.1

Item 9 Delete original sheet A2.1 and replace with new attached sheet A2.1 with revision date 11/12/18.

-At Door Schedule – Door 100A should read under size (4) 31" panels

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-Door Types – Door D9 – Add overall dimensions that read 96" tall X 120" long. Add note under door that reads as follows: Door to be by The Sliding Door Company (888-988-5033) <u>www.sliding doorco.com</u> Note: Door with ¼" clear glazing panels, sides to be fixed with center panels slide to each side. Frame to be white with square designer door handles on double top track and ADA ramp sill.

-At Alum Storefront Window Types - Add a window frame type "I" that is 3'-2" wide by 5'-2" tall and be 3'-6" off the floor to the bottom of the sill.

-Revised widths of windows E from 2'-2" to 2'-6" and window F from 2'-3" to 2'-2".

Sheet A4.1

Item 10 Add missing sheet A4.1 to the documents. Delete duplicate A4.4 sheet from set that is located in the A4.1 spot in the set.

Sheet A4.2

Item 11 At details 3G and 5G where it reads "¾" plaster over mtl lath on bottom chord of trusses at 24"o.c. max" replace with "1/4" fiber cement board soffit/ceiling w/ 1X2 battens at seams (See RCP on sheet A6.1)

Sheet A5.1 thru A5.4

Item 12 Remove duplicate sheets A5.1 thru A5.4 that are dated with a "?" from set.

Sheet A6.1

Item 13 Delete original sheet A6.1 and replace with new attached A6.1 /Reflected Ceiling Plan with revision dated 11/12/18.

-Cleanup of hatch pattern in legend schedule and showing battens locations on covered porched.

Sheet A7.1

Item 14 Delete original sheet A7.1 and replace with new attached A7.1 /Roof Plan with revision dated 11/12/18. Added future owner provided and installed solar panels to plan for reference only.

Sheet S1.2

Item 15 Foundation Edge detail should read 8F/S0.1 similar with the concrete slab being 6" with fibers in lieu of 4".

Sheet M0.2

Item 16 Split System AC Unit Schedule: Revise all Outdoor Unit model numbers for condensing units CU-1 through CU-2 to be the series SPB (heat pump) with tonnage to match the associated AHU model number and per the schedule.

Sheet E0.1

Item 17 Delete original sheet E0.1 and replace with new attached E0.1 / Electrical Specifications, Notes, Legend and Abbreviations with revision dated 11/12/18.

Sheet E1.1

Item 18 Delete original sheet E1.1 and replace with new attached E1.1 / Electrical Lighting Floor Plan with revision dated 11/12/18.

Sheet E1.2

Item 19 Delete original sheet E1.2 and replace with new attached E1.2 / Electrical Power Floor Plan with revision dated 11/12/18.

Sheet E2.1

Item 20 Delete original sheet E2.1 and replace with new attached E2.1 / Electrical Oneline, Main Distr-pln and schedules with revision dated 11/12/18.

Sheet E2.2

Item 21 Delete original sheet E2.2and replace with new attached E2.2 / Electrical Panel Schedules with revision dated 11/12/18.

Sheet E3.1

Item 22 Delete original sheet E3.1 and replace with new attached E3.1 / Electrical Site Work with revision dated 11/12/18.

Sheet T0.1

Item 23 Delete original sheet T0.1 and replace with new attached T0.1 / Telecom Legend, Details and Riser with revision dated 11/12/18.

Sheet T1.1

Item 24 Delete original sheet T1.1 and replace with new attached T1.1 / Telecom Floor Plan with revision dated 11/12/18.

END OF ADDENDUM NUMBER ONE

F:/3702150/10 Cad\Addenda\Frm Addendum 1



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EMAIL

November 12, 2018

Mr. Mick Richmond Brame Heck Architects <u>m.richmond@brameheck.com</u>

RE: Clay Electric Keystone Heights CSEI Project No. 18013

Dear Mr. Richmond:

Please include the following in your next addendum to the referenced project.

- 1. <u>PROJECT MANUAL:</u> Add attached spec Section 270713 / Telephone, Computer, Television Systems to the specifications for this project.
- 2. DRAWINGS:
 - 2.1. Replace sheets E0.1 through T1.1 (eight total sheets) in their entirety with the attached, revised sheets with revisions indicated by clouds.
 - 2.2. Sheet M0.2 / Split System AC Unit Schedule: Revise all Outdoor Unit model numbers for condensing units CU-1 through CU-2 to be of series SPB (heat pump) with tonnage to match the associated AHU model number and per the schedule.

Sincerely,

Kevin M. Spellicy, PE, LEED AP President

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SECTION 260713 / TELEPHONE, COMPUTER, TELEVISION SYSTEMS

1 <u>GENERAL</u>

- 1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this Section.
- 1.2 Division-26 Basic Electrical Materials and Methods Sections apply to work of this Section.
- 1.3 All Drawings and Specifications of all divisions of the contract documents are complementary to each other and what is called for by one shall be as binding as if called for by both. If a discrepancy exists, the higher cost shall be priced and the architect and engineer shall be notified.
- 1.4 This specification provides requirements for complete and working copper structured cabling systems intended for voice or data. All components provided shall be capable of performing to minimum of Cat 6 performance.
- 1.5 <u>Submittals</u>
- 1.5.1 Submit shop drawings with detail sufficient to establish compliance with contract documents. Mark all data sheets for the product being provided with an identifying mark or arrow. Submit operator's manuals for all instrumentation proposed for use in testing.
- 1.5.2 Submit shop drawings on IBM-PC-compatible compact disk or flash drive in AutoCAD-12 or 14 format. Drawings shall include the following:
- 1.5.2.1 Floor plans showing locations of computer/telephone terminal outlets, raceway, cable tray and conduit, communications rooms and cabinets, and all outlet numbers shall be indicated. Floor plans shall be accurately drawn to 1/8"= 1'-0" scale or other standard scale. Plans obtained from architect or engineer may be used as background with irrelevant features removed as necessary for clarity.
- 1.5.2.2 Elevations of all equipment racks and back boards containing equipment shall be indicated. Elevations shall be accurately drawn to ½"=1'-0" scale. All equipment shall be identified with make, model number, and outlet number served.
- 1.5.2.3 A complete riser diagram of the system with all items fully identified as above shall be indicated in submittal.
- 1.5.2.4 Submittal shall include but shall not be limited to providing the following:
- 1.5.2.4.1 Submit a complete parts list of data communications equipment with manufacturers part numbers included before, during and after the completion of job.
- 1.5.2.4.2 Submit manufacturers catalog information showing dimensions, technical information and configuration. Provide data for the following: Wire and cable specifications, Raceways and fittings, Connectors, outlets, jacks and other required hardware, Termination components for each type, Fiber Optic patch panels, Fiber Optic patch chords, and

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Distribution frames.

- 1.5.2.4.3 Submit manufacturers technical data sheet for cabling to include the following: Mutual Capacitance (pf/ft), Cable Length, Impedance, Attenuation, Worst and best pair to pair near end cross talk, and DC Resistance.
- 1.5.3 Contractor shall make all submittals described above and receive engineer's approval before proceeding with work. Drawings described in 1.5.2 through 1.5.2.4.3, above, are a required part of the shop drawing submittal.
- 1.5.4 <u>Prior to Substantial Completion</u>, the Contractor shall test and inspect the system to ensure that it is in compliance with these documents. Deficient workmanship, including incorrect labeling, may be considered sufficiently serious to bar substantial completion. Prior to requesting a substantial completion inspection, contractor shall submit the following:
- 1.5.4.1 Submit test reports for all copper and fiber optic cables and their terminations verifying connectivity in compliance with system labeling and data transmission in compliance with applicable standards. Reports shall bear a statement that the system complies with the contract documents and referenced standards in all respects and shall be signed by a current BICSI RCDD. Submittal shall include properly executed manufacturer warranty document as described in paragraph 1.7, below. Submit two weeks prior to request for substantial completion inspection. Submit no test reports showing marginal or failing test results.
- 1.5.4.2 Manufacturer's warranty as described in 1.7, below, shall be included.
- 1.5.5 Modify drawings prepared in 1.5.2 through 1.5.2.4.3, above, to reflect as-built condition and submit as part of as-built drawings package.
- 1.6 <u>Coordination</u> of all work and materials with Owner and with providers of telephone and data equipment to be used with system provided under this specification shall be performed by the Contractor as part of satisfying the requirements of the Contract Documents, prior to ordering any materials or performing any work. Where work by the Owner or others is required in conjunction with construction, Contractor is responsible for coordination such work and ensuring that all required work is completed on schedule. Coordinate the location of all items with all other documents in the contract and with job conditions. Exact locations and elevations of equipment provided in telecommunications rooms shall be approved by Owner prior to rough-in.
- 1.7 <u>Warranty and Contractor Qualifications:</u> In addition to warranty coverage required elsewhere in the contract documents, Contractor shall obtain from manufacturer(s) of signal connectivity equipment 15 year minimum warranty guaranteeing system performance at level(s) specified herein. Manufacturer warranty shall be coordinated among the various manufacturers of cable, jacks, receptacles and other components involved to provide a single point of responsibility. Manufacturer warranty shall provide all materials and labor necessary to correct deficiencies without proration over the life of the warranty. Pricing shall fully explain conditions of warranty, including remedies, limitations and any and all conditions requiring owner compliance. Shop drawings

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submittal shall include documentary evidence that contractor will be using installers certified by manufacturer as necessary to obtain warranty. Companies specializing in manufacturing products specified in this section will have a minimum of 3 years experience. The contractor shall be experienced in all aspects of the work to be performed. Included as part of the contractors pricing, the contractor shall disclose all sub-contractors that will be utilized, to include name of the sub-contractor(s), list of completed jobs of equal size, resume of the project foreman, RCDD documentation and other supporting documentation.

- 1.8 <u>Codes and Standards,</u> as indicated below, shall be considered additional requirements of this Contract for Construction where applicable. Work performed as part of this contract shall be in accordance with relevant sections of TIA/EIA 568, 569 and 606, Building Industry Consulting Services, International Standards (now just BICSI: A Telecommunications Association), the National Electric Code, (NFPA 70), Life Safety Code (NFPA 101), and the Florida Building Code. Specific editions of these codes shall be as adopted by the authority having jurisdiction over this work. Special amendments to these coded and other requirements of the local fire and building authorities having jurisdiction over this work shall also apply.
- 1.8.1 Workmanship shall conform to the highest standards of BICSI and EIA/TIA. Finished work shall be of the required quality and present a neat and orderly appearance. Non-conforming work shall be corrected to the Owner's and Engineer's satisfaction at no change in the contract amount.

2 PRODUCTS

- 2.1 All products proposed for use shall be new, unused and undamaged, UL approved for the intended use an in compliance with the contract documents. Non-conforming material shall be removed from the work site and replaced promptly.
- 2.2 Fire-safing and sleeve materials used for passage of raceways through rated fire and smoke partitions shall be of a type and configuration acceptable to the fire protection and building inspection authorities having jurisdiction over this work and shall comply with architectural sections of these contract documents.
- 2.3 Any item of equipment or material not specifically addressed on the contract documents required to provide a complete and functional system shall be provided in conformance with the contract documents.
- 2.4 All cables and connections provided under this contract for data and telephone shall be rated cat 6 and shall be terminated per EIA/TIA 568A unless specifically stated as otherwise.
- 2.5 <u>Optical Fiber Cabling</u> shall be multimode optical fiber cables of 62.5/125µm type and shall meet all of the requirements delineated within the specifications of ANSI/TIA/EIA-568-1 and ISO/IEC 11801. Singlemode optical fiber cables shall be 8.7-10/125µm type. (Belden, Berk-Tek, Commscope, General Cable, Mohawk, Optical Cable Corporation, or approved equal)

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- 2.6 <u>ST Connectors</u> shall provide the following minimum requirements: 0.3dB Attenuation, less than 0.2dB per 1000 reconnects, and with Zirconia Ceramic tip/nickel plated zinc body and 125 Micron size. Shall be 3-M Hot Melt Multimode 6100, 3-M Hot Melt Singlemode 8100 YS or approved equal.
- 2.7 <u>19" Equipment Racks</u> shall be provided as necessary to accommodate the number of patch panels and other rack-mounted equipment which is required, as a minimum. Additional racks shall be provided if so indicated on the Drawings. Racks shall have (3in) vertical cable channels as side rails and (7 ft) height and have standard ANSI/EIA-310-C mounting holes having 45 rack mount spaces minimum on front and back of rails. Cable routing opening shall be available in the front and rear of the channels. Racks shall have ladder channel which acts as a top bracket to easily nest a standard 304.8 mm (12 in) ladder tray. The channel must have carriage bolt holes for attaching to the ladder system. Racks shall be aluminum with a black finish. Racks shall have vertical cable management channels located between racks. Racks shall have floor mounting holes and a groung lug for #6 ground conductors provided (provide a different size if so indicated on the Drawings for the telecommunications bonding jumper). Racks shall be at the top of each rack.
- 2.8 <u>Cat 6 Cables</u> for data and telephone shall be manufactured by Belden, Berk-Tek, Commscope, General Cable, Mohawk, or approved equal. All cat 6 cables and connections shall comply with EIA/TIA-568 (designation T568A), unless noted otherwise on the Drawings. Cable shall be unshielded twisted pair (UTP) and be rated for a minimum of 100 mbps (ANSI X3T9.5.) Each pair shall have a twist that ranges from 12 to 24 twists per foot. Outer jacket shall be of Plenum (CMP) material: PVC (CMR) jacket cabling will not be used unless stated within. Network cables shall be secured to walls, construction frame work or appropriate tie downs. Horizontal cabling above the ceiling shall be secured using approved methods and devices; no cables shall be unsecured lying on the ceiling. Data network cable outer jackets shall be grey in color with UL listed markings visible. The following manufacturers shall be approved: AT&T Systemax, General Cable, Mohawk, and Berk-Tek.
- 2.9 <u>Cat 6 Patch Cords</u> with termination types required shall be provided for all patch panel locations with colors to match the related cable types for voice and data. Each patch cord shall be uniquely identified from all other patch cords in each room using typed, heat shrink labels at both ends. Patch cords shall be provided complete from manufacturer and shall not be assembled, labeled or otherwise fabricated in the field. User end patch cords shall be 7 feet long, and telecommunications closet end shall be 3 feet long.
- 2.10 Patch Cords for Fiber Optic cables shall be pre-assembled multimode 62.5/125 micron duplex fiber optic cable with four ST style connectors will have plenum rated outer jacket. Cable shall be 10 feet in length. Cable ends shall be labeled on both transmit and receive ends. Provide 1 patch cord for every fiber optic interface card provided in each distribution frame. Provide additional spare cords totaling 5% of the number of interface cards provided.
- 2.11 <u>Fiber Optic Terminal Cabinets</u> All fiber optic cabling shall be terminated on rack mounted cabinet installed on the Telecommunications rack. Fiber patch panel shall be

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12 to 24 strand rack mounted for ST connectors. Provide rack mounted fiber termination patch panels capable of handling 24 ST fiber connectors. Each panel shall contain 2 components, one for organizing the cable's individual pairs and the other for user access to the equipment side of each ST connector. Panels shall be constructed of high galvanized steel with stainless steel hardware and a painted corrosion resistant enamel black finish. Enclosures shall have 2 interlocking doors with a means to lock each cabinet. Provide 2 keys for each cabinet. All holes shall have grommets.

- 2.12 <u>Patch Panels for Data and Voice</u> shall be Cat 6 48-port patch panel with RJ-45 jacks, Power Sum compliant and tested to 350 MHz, mounted in steel frame designed for standard 19 inch equipment rack mounting and not more than 3 rack units high. Provide with integral labels front and rear and rear wire management bar. Ports on each panel shall be arranged in two rows of four groups each with six ports in each group.
- 2.12 <u>Cable Management Panel</u> shall be painted steel panel for standard 19" rack mounting with five 3" x 4" cable management rings for management of horizontal cable bundle.
- 2.13 Unless shown otherwise on Drawings, at each and every wall-mounted Data/Telephone Outlet shown on the plans provide materials and labor as follows:
- 2.13.1 Provide a 4-11/16" square 2-1/8"deep steel junction box flush mounted in wall 18" AFF with single gang plaster ring. Coordinate exact location and mounting height with architect's documents. Provide 1" EMT from junction box to appropriate telecommunications room. All turns shall be sweep ells or pull points. Provide pull boxes as specified by Section 26100 except that pull boxes shall be provided as necessary to ensure that no more than two 90° bends (or 180° total bending if bends are less than 90°) and no more than 200 feet of conduit are provided between any two pull points. Label the conduit end with an engraved phenolic tag identifying the room and outlet served as described below.
- 2.13.2 Provide four-module single-gang faceplate with three cat 6 modular RJ45 jacks for data and voice outlets. Provide blank module covers as necessary to close all faceplates.
- 2.14 At each and every Computer/Telephone Terminal Outlet provide the following:
- 2.14.1 Provide one 4-pair Cat 6 cable terminated to each Cat 6 jack. Extend cables through conduit system, or cable trays as shown on the Drawings, to punch down blocks in main telecommunications room and terminate there. Provide fifteen feet of spare length per cable neatly secured. Cables outside conduit shall be bundled by outlet and by room with Velcro type straps on three foot centers. Fasteners which may indent cable jacket are specifically forbidden. Attach a type written shrink fit sleeve type label to both ends of each cable bearing the color code of the jack and the number of the outlet and room consistent with the other labeling specified. Labels shall not be hand written or adhesively attached. Cables shall extend from room jack to punch down block in phone/computer room continuously without splice or joint.
- 2.14.2 Provide type written identifying label on faceplate bearing the outlet room and sequence number. Label shall be slip-in type, mechanically secured by a transparent label as provided with faceplate. Adhesive labels are not acceptable. Outlet room number shall

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be per building room numbering plan and shall match permanent room number. Outlets within room shall be numbered sequentially staring with 1 and proceeding clockwise around room from entry door. Start numbering at door closest to north west corner of room in rooms with multiple doors. Outlets on islands within rooms shall be numbered after all wall outlets, shall be sequential within each piece of casework, row or group of floor outlets and shall proceed from north to south and west to east. Coordinate numbering with engineer as necessary; see other labeling requirements below. Enter all outlet numbers on field record and as-built drawings.

- 2.15 In all rooms which are described as Information Technology (IT), DATA, PHONE, Telecommunications Room (TR), Telecomunications Enclosure (TE), Entrance Facility (EF), or other such room designations which indicate that the space is dedicated to telecommunications; Contractor shall provide materials and labor necessary to provide the following:
- 2.15.1 Provide eight feet high 3/4" thick Readyspec plywood back boards completely covering all walls of any Telecommunications Rooms (TRs). The Readyspec backboard shall be painted gray with two coats of 100% latex primer sealer applied to the front and sides of backboards. Install back board panels to support 500 pounds per sheet with a 1 foot moment arm. Paint with two coats of fire retardant gray. Clearly indicate the fire resistivity and affix to the backboard. Provide cutouts as necessary for building systems. The backboard shall reach from corner to corner. Install the backboard vertically at 12" AFF and anchor securely to wall substrate with a minimum of five (5) equally spaced fasteners along each vertical edge and down the centerline of each panel. Backboard kits shall include fasteners for masonry, hollow block, steel frame and wood frame walls. Fasteners must be flush with surface of backboard. Fasteners shall be of the appropriate type for each substrate. Install fasteners flush with the surface of the backboard. Provide blocking or additional studs in framed walls to receive backboard panel fasteners. Provide any power receptacles in any TRs such that they are completely below 12 inches AFF, and below the backboards.
- 2.15.2 Provide screw type copper ground bus with minimum #6 (provide a different size if so indicated on the Drawings for the telecommunications bonding jumper) copper radial connections to all installed equipment, raceway and connecting communications and power feeders and branch circuits. All grounds must be radial without loop through, joint or splice. Daisy-chain grounds are specifically forbidden. Building telecommunications bonding jumpers shall be homerun back to the existing building main telecommunications room.
- 2.15.3 Provide cable trays as shown on the drawings and as necessary to support all cables. Suspend cable tray from ceiling with its bottom eight feet above finished floor using 5/8 inch rods on two foot centers. Rod attachments to the cable tray shall be sufficiently rigid as to prevent perceptible tipping of the tray with loads up to its maximum rating applied to one rail. Entire cable tray installation shall be made using components supplied by cable tray manufacturer; field fabrications shall not be used.
- 2.15.4 As required for number of outlets supplied, provide 48-port metal modular patch panels mounted in 19" x 7' equipment racks. Provide the quantity of racks required for number of patch panels and other rack-mounted equipment, as a minimum. Provide additional

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racks if so indicated on the Drawings. If stand-off brackets are indicated on Drawings, these wall-mounted brackets shall be provided for the support of the patch panels, instead of equipment racks. Provide full vertical and horizontal wire management. Provide materials and labor as necessary to fully color code and label all patch panels and jumper cables. Select colors to match jacks served. Coordinate panel organization and labeling with owner.

- 2.15.5 Provide forty eight booted, six feet long Cat 6 eight conductor patch cords with RJ-45 plugs at each end for each patch panel provided above. Patch cord colors shall match that of the jacks to which they are connected. All patch cords shall be uniquely identified with shrink sleeve or other permanently affixed label at each end.
- 2.15.6 Provide two 24-port optic rack-mount enclosure with ST adapter panels or provide equivalent wall-mounted optic rack-mount enclosure with bracket if no equipment racks are shown on Drawings. Provide terminated fiber optic duplex jumpers 3 meters long to connect fiber optic interface to owner's equipment. Coordinate exact lengths and adapter requirements with owner.
- 2.16 All labels shall be neatly type written or engraved and shall be mechanically secured in place. Hand written, adhesive or otherwise defective labels shall be replaced at no change in the contract amount.

3 EXECUTION

- 3.1 Each room outlet, termination, connector block and cable shall be tested to verify both the electrical characteristics and correctness of the termination sequence and labeling. Testing connections shall be made to modular jacks at the outlets and at the patch panels. Electrical characteristic tests shall include cross talk and other interference, attenuation impedances and reflections and bit error rate, all at 100Base-T data rates. Notify engineer and owner and provide complete technical data regarding proposed test equipment, connections and methods two weeks prior to testing. Test only with engineer present or with engineer's written instructions to proceed. Perform all tests and submit test data verifying satisfactory performance to engineer and to owner prior to substantial completion. All tests shall be performed by or under the direct supervision of a BICSI RCDD employed by the Contractor. All test reports shall be signed by the responsible RCDD and shall bear the RCDD's written statement that all components of the system were found to fully meet all requirements of the contract documents in all respects.
- 3.2 Contractor shall coordinate all work with the owner.
- 3.3 <u>Additional Backboard-Mounted Patch Panels and Patch Cables</u>, as necessary, shall be provided for copper voice and data cables whenever indicated on the Drawings. These backboard or wall-mounted patch panels shall be used to connect directly to the horizontal distribution cables which are concealed in the building walls, floors, ceilings and other assemblies. Patch cables shall then be used to connect the wall-mounted patch panels to the freestanding rack] patch panels such that no freestanding-rack patch panel is directly connected to any copper data or telephone cables except those which are fully rated as patch cables. Horizontal distribution cables which are concealed by walls, floors, ceilings, or other such building assemblies shall not be connected to any

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patch panels which are located in freestanding racks.

- 3.4 Contractor shall be responsible for providing complete and working system of cables, outlets, terminations, and other necessary equipment for the data system.
- 3.5 Provide dedicated phone lines as required to accommodate the functionality of the automatic dialers or automatic communicators, if a fire alarm system is provided. Coordinate exact requirements with other Divisions of this Contract prior to pricing.
- 3.6 Do not route conduit below grade or in grade level slab. Show conduit and wire way routing, ends and pull points on drawings. Cable length between Data/phone outlet and termination in equipment in TR shall not exceed 290 feet including patch and station cables. Advise engineer at once of any raceway or cable run which cannot be constructed within this limit.
- 3.7 Provide a sufficient quantity of patch panels on equipment racks in each telecommunications room to terminate the cable runs to the room. Provide one cable management panel below each patch panel.
- 3.8 Provide sufficient length at each cable end to circle each room once at the walls or thirty feet, whichever is less. Monitor pulling tension at all times and maintain below manufacturer's maximum. Remove and replace all over tensioned cables. Maintain bend radius at or above manufacturer's minimum at all times. Remove and replace all cable bent to less than manufacturer's minimum bend radius. Remove and replace all cable showing jacket damage. Label both ends of all conduits, inner ducts and cables at both ends, as described elsewhere in this specification, with the room number of the opposite end.
- 3.9 Cables outside conduit shall be bundled by outlet and by room with Velcro type straps on one foot centers. Fasteners which may indent cable jacket are specifically forbidden. Attach a type written slip-on or shrink fit sleeve type label to both ends of each terminated cable bearing the number of the outlet. Labels shall not be hand written or adhesively attached. Cables shall extend from telephone/data outlet to termination locations in one continuous piece without splice, joint or intermediate termination.
- 3.10 <u>Labels and Port Colors</u> shall be neatly type written or engraved, shall be mechanically secured in place, and shall have colors which are approved by the Owner. Hand written, adhesive or otherwise defective labels shall be replaced at no change in the contract amount. Provide type written identifying label on faceplate of each Data/phone outlet and each patch panel bearing the outlet Room and sequence number. Label shall be slip-in type, mechanically secured by a transparent label as provided with faceplate. All Data/phone outlet faceplates, cables, jacks and all conduit, cables and jacks in tele/comm locations shall be labeled as shown on numbering plan. If no numbering plan is provided on documents, number as follows: Outlet room number shall match permanent room number. Outlets within room shall be numbered sequentially starting with 1 and proceeding clockwise around room from entry door. Start numbering at door closest to north west corner of room in rooms with multiple doors. Outlets on islands within rooms shall be numbered after all wall outlets, shall be sequential within each piece of casework, row or group of floor outlets and shall proceed from north to south

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and west to east. Enter all outlet numbers on field record and as-built drawings. Color code jacks in faceplates and duplicate all Data/phone outlet numbers and color code on TE, EF, and TR labels. Coordinate exact labeling and color requirements with Owner, prior to performing labeling work and prior to ordering any materials.

- 3.11 Provide screw type copper ground bus with minimum #6 (provide a different size if so indicated on the Drawings for the telecommunications bonding jumper) copper radial connections to all installed equipment, raceway and connecting communications and power feeders and branch circuits. All grounds must be radial without loop through, joint or splice. Loop through or daisy-chain grounds are specifically forbidden. Ground all equipment racks. Provide separate, minimum, #6 AWG telecommunications bonding jumpers (provide a different size if so indicated on the Drawings for the telecommunications bonding jumper) in 1 inch conduits from existing building main telecommunications room to each new telecommunications room provided under this contract.
- 3.12 Provide cable tray connecting free standing equipment rack(s) to back board. Suspend cable tray from structural ceiling with its bottom eight feet above finished floor using 1/2 inch rods and stiffener bars on each side on two foot centers and at each end. Rod attachments to the cable tray shall be sufficiently rigid as to prevent perceptible tipping of the tray with loads up to its maximum rating applied to one rail. Entire cable tray installation shall be made using components supplied by cable tray manufacturer; field fabrications shall not be used. Cable tray shall be wall-mounted or trapeze-supported aluminum trapeze or ladder type four inches deep with 1/2" square minimum cross section rungs on 9" centers with end caps. Provide 12 inches of tray width for every two equipment racks, 12" minimum. If wall-mounted, cable trays shall have additional rod supports from the ceiling to the outer edge of the wall-mounted tray.
- 3.13 Secure equipment racks to floor slab with bolts and washers of the maximum size to fit mounting holes in base. Provide a minimum of four bolts epoxy grouted into 2" deep holes in slab. Allow epoxy to cure completely before mounting equipment in racks. Locate racks with 3 feet minimum clearance front and 5 feet clearance back. Coordinate exact location with owner. Locate all in-slab conduit, pipes and other interferences before drilling slab.
- 3.14 All workmanship shall be of the highest quality available in the industry and comply in all respects with the requirements of the codes and standards cited earlier. Workmanship shall conform to the highest standards of BICSI and EIA/TIA. Finished work shall be of the required quality and present a neat and orderly appearance. Non-conforming work shall be corrected to the Owner's and Engineer's satisfaction at no change in the contract amount.
- 3.15 Each room outlet, termination, connector block and terminated cable shall be tested to verify both the electrical characteristics and correctness of the termination sequence and labeling. Testing connections shall be made to modular jacks at the outlets and at the patch panels. Tests shall include length, cross talk and ACR at both ends, attenuation by power meter, impedances and reflections and bit error rate, all at 100Base-T and 1000Base-T data rates. Notify engineer and owner and provide complete technical data regarding proposed test equipment, connections and methods two weeks prior to testing.

TELEPHONE, COMPUTER, TELEVISION SYSTEMS

Test only with engineer present or with engineer's written instructions to proceed. Perform all tests and submit test data verifying satisfactory performance to engineer and to owner prior to substantial completion. Submit no reports showing failed or marginal test results. All tests shall be performed by or under the direct supervision of a BICSI RCDD employed by the Contractor or his sub-contractor. All test reports shall be signed by the responsible RCDD and shall bear the RCDD's written statement that all components of the system were tested and found to fully meet all requirements of the contract documents in all respects. Report shall individually name all tests or standards applied and cite compliance with each individually. Parts or all of this testing may be included in any testing required for manufacturer's warranty, provided the testing requirements in this section are met.

END OF SECTION

TELEPHONE, COMPUTER, TELEVISION SYSTEMS



MERGENCY ENERATOR ON CONC. PAD	S E A L
1G 51.2	B MICHAEL P. RICHMOND REGISTRATION # AR-0091268 CORP. LIC. NO. AA0002304
NNW/ TS	WD STUD PARTITION W/ §" GYP. BD. EA. SIDE & SOUND ATTENDATION BLANKETS AT CAVITY CMU (SIZE & TYPES VARIES - SEE DETAILS) TB 4'-0" LONG TACK BOARD (SEE SHEET A0.1 FOR MTG HGT] MB 6'-0" LONG MARKER BOARD (SEE SHEET A0.1 FOR MTG HGT] MB 6'-0" LONG MARKER BOARD (SEE SHEET A0.1 FOR MTG HGT] W/ 2" MTL Z FURRING @ 24" O.C. W/ 2" RIGID INSULATION MB 6'-0" LONG MARKER BOARD (SEE SHEET A0.1 FOR MTG HGT] X WALL SECTION OR DETAIL TAG NAME NUM ROOM NAME & NUMBER X BUILDING ELEVATION TAG MOOR NUMBER X WINDOW TYPE FEC FIRE EXTINGUISHER CABINET VERIFY EXACT LOCATION W/ FIRE MARSHAL INTERIOR ELEVATION TAG SEE SHEETS A5.1 & A5.4 FE WALL MOUNTED FIRE EXTINGUISHER INTERIOR ELEVATION TAG SEE SHEETS A5.1 & A5.4 G 3"x3" STEEL CORNER GUARD (FULL HGT OF OPENING) AB ACCESSIBILITY BUTTON
ENT BOX TO VANT -DIG OUND ESTA	 INTERIOR PARTITION TYPES (SEE SHEET A0.1 FOR DETAILS) GENERAL CONSTRUCTION NOTES: A. INTERIOR PARTITIONS TO BE WD STUDS @ 16" O.C. WITH 5/8" GYPSUM BD. BOTH SIDES AND SOUND BATTS AT CAVITY BETWEEN STUDS. B. INTERIOR DOOR FRAMES IN WD. STUD WALLS ARE TYPICALLY SET 4" OFF ADJACENT WALL; UNLESS OTHERWISE SHOWN. C. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES WITHIN CONTRACT DOCUMENTS TO THE ARCHITECT IMMEDIATELY. D. ESTABLISHING THE TOP OF SLAB ELEVATION AT 0'-0" IS FOR REFERENCE ONLY. REFER TO CIVIL DRAWINGS FOR ACTUAL ELEVATION OF FLOOR. E. ALL FURNITURE SHOWN IS FOR OWNER'S REFERENCE ONLY AND IS NOT IN CONTRACT. F. DIMENSIONS ARE TO THE FACE OF STUDS AND FACE OF CMU UNLESS OTHERWISE DENOTED WITH ASTERISK WHICH INDICATES FINISHED FACE OF WALL. G. ALL INTERIOR PARTITION WALLS TO RECEIVE SOUND ATTENUATION BLANKETS BETWEEN STUDS. H. SEE SHEET A2.3 FOR LAYOUT OF FLOOR PATTERNS AT LOBBY AND CORRIDORS. I. INSTALL ³/ PLYWOOD (PAINTED GRAY) ON ALL WALLS OF COMM ROOM.
	SHEARWALLS (SW) ✓ SPUTO & LAMMERT ENGINEERING, LLC STRUCTURAL ENGINEERS 10 SW 1st AVENUE GAINESVILLE, FLORIDA 32601 PHONE 352-378-0448 FAX 352-373-1331 KIMBERLY LAMMERT, P.E. CA6855 PE 67405 IORAWN Million Million IONGITUDINAL SW ✓ FRANSVERSE SW
	LIFE SAFETY LEGEND: SPACE SQUARE FOOTAGE CALCULATED OCCUPANT LOAD AREA/OCCUPANT ↑ PRIMARY EGRESS / EXIT SECONDARY EGRESS / EXIT NOTE: PROVIDE A BRAILLE TACTILE EXIT SIGN AT ALL EXIT DOORS, SEE SION SCHEDULE ON SHEET ADJ



& FLASHING OR DECK MOUNTED AS REQ'D. BY MECH.

DOWNSPOUT

ELECTRICAL SPECIFICATIONS

16.

- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE AND WORKING ELECTRICAL SYSTEM AS INDICATED WITHIN THESE DRAWINGS.
- 2. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES AND WITH MANUFACTURERS RECOMMENDATIONS. ALL WORK, MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE.
- 3. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS PRIOR TO SUBMITTING HIS BID. THE ARCHITECT SHALL BE NOTIFIED OF ANY CONFLICTS, OR INTERFERENCE THAT OCCUR BETWEEN INDIVIDUAL DRAWINGS OR BETWEEN THE DRAWINGS AND SPECIFICATIONS.
- 4. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT, FIRST CLASS, WORKMANLIKE MANNER, TO THE APPROVAL OF THE ARCHITECT/ENGINEER AND GOVERNING AUTHORITIES.
- GUARANTEES AND SERVICE IN ADDITION TO THE MANUFACTURERS STANDARD GUARANTEES, THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP AGAINST DEFECTS FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE, AND SHALL CORRECT ANY DEFECTS AT NO ADDITIONAL COST TO THE OWNER. ALL LAMPS SHALL BE GUARANTEED FOR 30 DAYS.
- CONDUIT AND WIRING THE CONTRACTOR SHALL PROVIDE COPPER CONDUCTORS IN METALLIC RACEWAY UNLESS NOTED OTHERWISE. CONDUITS SHALL CONTAIN AN INSULATED GREEN GROUND CONDUCTOR. FOLLOW RULES AND REGULATIONS OF THE NEC FOR PROPER INSTALLATION REGARDING INSTALLATION AND SUPPORT.
- 7. <u>PVC</u> SHALL ONLY BE USED IN STRAIGHT SECTIONS OF RACEWAY WHICH ARE COMPLETELY BELOW GRADE OR IN SLAB ON GRADE. ALL UNDERGROUND ELBOWS AND ALL CONDUITS PENETRATING GRADE OR SLAB-ON-GRADE SHALL BE BITUMASTIC-COATED (WITH TWO COATS) RGS CONDUIT. ALL EXPOSED EXTERIOR RACEWAY SHALL BE RGS. ALL INTERIOR RACEWAY ABOVE GRADE AND NOT EXPOSED TO HAZARDOUS CONDITIONS SHALL BE EMT. INTERIOR RACEWAY EXPOSED TO WET OR HAZARDOUS CONDITIONS SHALL BE RGS. EXPOSED INTERIOR RACEWAY SHALL BE PAINTED TO MATCH WALL FINISH. EQUIPMENT CONNECTIONS SHALL BE LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT (NEC ARTICLE 356). ALL FITTINGS SHALL BE COMPRESSION TYPE EXCEPT FOR SIZES 2" AND ABOVE WHICH MAY BE SET-SCREW TYPE. PROVIDE COPPER CONDUCTORS WITH DUAL RATED THWN/THHN TYPE INSULATION.
- GROUND WIRES TERMINATED ON GROUND BUS BAR WITHIN ELECTRICAL PANEL OR CONTROL PANEL TO BE FASTENED 8. WITH COMPRESSION LUG AND STAINLESS STEEL NUTS AND BOLTS.
- CABLES SHALL BE SINGLE CONDUCTOR TYPE UNLESS OTHERWISE INDICATED. ALL BRANCH CIRCUITS SHALL BE TYPE THWN INSULATED COPPER, HOMERUNS 100' OR LONGER SHALL BE #10 AWG, EACH BRANCH CIRCUIT SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC AND RUN WITH THE PHASE CONDUCTORS.
- 10. LOW-VOLTAGE CABLE SPLICES AND TERMINATIONS SHALL BE RATED AT NOT LESS THAN 600 VOLTS. SPLICES IN CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE MADE WITH AN INSULATED, SOLDERLESS, PRESSURE TYPE CONNECTOR, CONFORMING TO THE APPLICABLE REQUIREMENTS OF UL-486A. SPLICES IN CONDUCTORS NO. 8 AWG AND LARGER SHALL BE MADE WITH NONINSULATED, SOLDERLESS, PRESSURE TYPE CONNECTOR, CONFORMING TO THE APPLICABLE REQUIREMENTS OF UL-486A AND UL-486B. SPLICES SHALL THEN BE COVERED WITH AN INSULATION AND JACKET MATERIAL EQUIVALENT TO THE CONDUCTOR INSULATION AND JACKET.
- 11. PANELBOARDS PANELBOARDS SHALL BE FRONT ACCESSIBLE TYPE EQUIPPED WITH BOLT-IN CIRCUIT BREAKERS, DEAD FRONT AND FLUSH MOUNTED HINGED DOORS. PROVIDE UNIT WITH TIN-PLATED COPPER BUSES, SEPARATE NEUTRAL AND GROUND BUS. MOUNT PANELBOARD WITH OPERATING HANDLES AT NOT OVER 72" ABOVE FLOOR. CIRCUIT BREAKERS SHALL BE MOLDED CASE, WITH QUICK-MAKE/QUICK-BREAK ACTION AND THERMAL TRIP ELEMENTS. TWO POLE BREAKERS SHALL HAVE A COMMON TRIP. ALL CIRCUIT BREAKERS SHALL BE U.L. RATED AND LABELED. PROVIDE FULL-INTERRUPTING-RATING-TYPE CIRCUIT BREAKERS; SERIES-RATED DEVICES ARE PROHIBITED. PANELBOARDS SHALL BE PROVIDED WITH A TYPEWRITTEN SCHEDULE SHOWING CIRCUIT NUMBERS AND A COMPLETE DESCRIPTION OF EACH CIRCUIT, INCLUDING OFFICIAL ROOM NUMBER.
- DISCONNECT SWITCHES DISCONNECT SWITCHES SHALL BE HEAVY DUTY, QUICK-MAKE/QUICK-BREAK HORSEPOWER 12. RATED FUSED WHERE INDICATED ON THE DRAWINGS. INTERIOR UNITS SHALL BE NEMA TYPE 1 ENCLOSURES AND EXTERIOR UNIT SHALL BE NEMA TYPE 3R ENCLOSURES.
- 13. OUTLET BOXES CONTRACTOR SHALL INSTALL BOXES BEST SUITED TO LOCATION AND TYPE OF CONSTRUCTION. BOXES SHALL BE RIGIDLY INSTALLED TRUE AND PLUMB. BOXES AND/OR EXTENSION RINGS SHALL SHALL BE FLUSH WITH FINISHED SURFACE OF WALL OR CEILING. ALL ELEVATIONS SHALL BE MEASURED TO CENTER OF BOX UNO.
- 14. WIRING DEVICES AND PLATES (A) SWITCHES SHALL BE SPECIFICATION GRADE 20 AMP 120/277 VOLT WHITE. (B) RECEPTACLES SHALL BE 20A, NEMA 5-20R WITH GROUND - WHITE. (C) GROUND FAULT PROTECTED RECEPTACLES SHALL BE DUPLEX WITH TEST BUTTON AND RESET BUTTON - WHITE. (D) EXTERIOR RECEPTACLES SHALL BE GROUND FAULT INTERRUPTING TYPE WITH WEATHERPROOF GASKETED COVER. (E) PLATES SHALL BE WHITE NYLON.
- 15. TESTING AND IDENTIFICATION ALL WIRING AND EQUIPMENT SHALL BE TESTED AND LABELED AND THE INSTALLATION SHALL BE IN WORKING ORDER PRIOR TO ACCEPTANCE.

ELECTRICAL NOTES

1.	ALL MATERIALS AND LABOR PROVIDED SHALL COMPLY WITH REQUIREMENTS OF THE 2014 EDITION OF THE FLORIDA BUILDING CODE WITH ALL ADOPTED AMENDMENTS.	19.	CONTRACTOR SHALL PROVIDE OR OTHERWISE TO PROPERL
2.	ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH AN INDEPENDENT AND SEPARATE GROUNDED CONDUCTOR (NEUTRAL) WHICH IS NOT SHARED BY ANY OTHER CIRCUITS, UNLESS THE BRANCH		SPEAKERS, ETC.) THAT HAVE OWNER.
	CIRCUITS WHICH SHARE THE SAME NEUTRAL ALL SUPPLY THE SAME INDIVIDUAL ELECTRICAL LOAD SUCH AS THE SAME 3-PHASE MOTOR.	20.	RISER DIAGRAMS SHOW ONL' APPROPRIATE DRAWINGS FOR
3.	COORDINATE LOCATIONS OF ELECTRICAL EQUIPMENT, DEVICES, OUTLETS, FIXTURES, ETC. WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REFLECTED CEILING PLANS PRIOR TO ROUGH-IN WORK. DO NOT SCALE ELECTRICAL DRAWINGS.	21.	EXIT SIGNS SHALL REMAIN C WHICH ARE INDICATED WITH UNSWITCHED CIRCUIT FROM
4.	INSTALL ALL CEILING MOUNTED SPEAKERS TO AVOID CONFLICTS WITH AIR DEVICES, LIGHTS, SPRINKLERS, ETC.		THE BATTERY INVERTER PAC BATTERY PACK SHALL AUTON THAT CIRCUIT BREAKER REG
5.	INSTALL 4' X 4' AND 2' X 2' FIXTURE SUCH THAT LAMPS ARE PARALLEL IN SAME VISUAL AREA.		SWITCHING CONTROLLING THE
6.	THERE SHALL BE NO WALL OUTLETS INSTALLED BACK TO BACK; OFFSET TWELVE INCHES MINIMUM.	22.	ELECTRICAL CONTRACTOR SH TO THE METAL STUD SYSTEM
7.	ALL WIRE SHALL BE COPPER.		REMOVED AND REINSTALLED
8.	ALL RACEWAY FOR THE FIRE ALARM SYSTEM SHALL BE RED AND SHALL BE 3/4" CONDUIT MINIMUM.	23.	ELECTRICAL CONTRACTOR SH
9.	UNLESS INDICATED OTHERWISE, COMMUNICATION BOXES SHALL BE A MINIMUM OF $4-11/16$ " X $4-11/16$ " X $2-1/8$ " DEEP WITH SINGLE DEVICE COVER PLATES.		DEVICE, LIGHT FIXTURE, ETC. CEILINGS. PROVIDE METAL SI PROVIDE HANGERS FROM
10.	PROVIDE AN INSULATED GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUITS.		WITH NEC 300.11.
11.	PROVIDE A 6'-0" MAXIMUM FLEXIBLE CONNECTION FROM EACH RECESSED LIGHTING FIXTURE TO JUNCTION BOX ABOVE CEILING.	24.	MOUNTING TOLERANCES FOR
12.	REMOVE ALL UNUSED EXISTING EXPOSED CONDUIT, WIRE, AND BOXES. PULL OUT ALL WIRE FROM EXISTING CONCEALED CONDUIT THAT HAS BEEN ABANDONED.	25.	THE CONTRACTOR SHALL INS ACOUSTICAL CEILING TILE IN
13.	DRAWINGS MAY INDICATE THE REUSE OF SOME EXISTING OUTLET BOXES OR RACEWAY. WHERE IT IS	26.	JUNCTION BOXES LOCATED A ACCESSIBLE AFTER INSTALLA
	IMPRACTICAL OR NON-COMPLIANT WITH THE NEC BECAUSE OF JOB CONDITIONS TO REUSE AN OUTLET BOX OR RACEWAY, CONTRACTOR SHALL PROVIDE NEW OUTLET BOX OR RACEWAY AS REQUIRED.	27.	ELECTRICAL CONTRACTOR SH DRAWINGS, LOCATIONS OF CI ARCHITECTURAL DRAWINGS P
14.	CONTRACTOR SHALL REPAIR — TO ORIGINAL CONDITION TO OWNER'S SATISFACTION — ANY EXISTING WALL, FLOOR, CEILING, OR OTHER EXISTING ITEMS REMOVED, ALTERED, OR DAMAGED DURING CONSTRUCTION.	28.	ALL RACEWAY PROVIDED SHA UNLESS NOTED OTHERWISE.
15.	REMOVE EXISTING ELECTRICAL EQUIPMENT ONLY AS INDICATED. PROVIDE MATERIALS AND LABOR NECESSARY TO MAINTAIN EXISTING ELECTRICAL POWER OR COMMUNICATIONS SUPPLIES TO EQUIPMENT, DEVICES, FIXTURES, OR OTHER EXISTING ITEMS TO REMAIN.	29.	PROVIDE PERMANENT MARKE WHICH INDICATES PANELBOAR SHALL BE VISIBLE WITHOUT
16.	REPLACE EXISTING RECEPTACLES NOT CONFORMING WITH N.E.C. WITH APPLICABLE NEMA GROUNDING TYPE.	30.	PROVIDE MATERIALS AND LA
17.	IF EXISTING FIXTURES ARE REINSTALLED OR RELOCATED, AFFECTED FIXTURES SHALL BE STORED SAFELY; CLEANED; AND SHALL HAVE NEW BALLASTS, LENSES, AND LAMPS PROVIDED, AS NECESSARY.		RECEPTACLE PROVIDED AS F VINYL CLOTH ADHESIVE MARI LOCATION WHICH IS VISIBLE
			NOT BE VISIBLE WITH COVER

18. THE CONTRACTOR SHALL REROUTE EXISTING CIRCUITS OR PROVIDE NEW CIRCUITS AS REQUIRED TO MAINTAIN ELECTRICAL POWER OR COMMUNICATIONS SUPPLIES TO FIXTURES, DEVICES, OUTLETS, OR OTHER EXISTING ITEMS TO REMAIN WHICH ARE SUPPLIED BY ITEMS TO BE REMOVED OR RELOCATED.

GROUNDING AND BONDING - ALL NON-CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS AND NEUTRAL CONDUCTOR OF THE WIRING SYSTEM SHALL BE GROUNDED. THE NEUTRAL GROUND CONNECTION SHALL BE MADE ONLY AT THE MAIN SERVICE EQUIPMENT. GROUND CONNECTIONS SHALL BE MADE TO 3/4"X10' COPPERCLAD DRIVEN GROUND RODS ON THE EXTERIOR OF THE BUILDING. GROUNDING AND BONDING SHALL BE IN COMPLIANCE WITH THE NEC AND LOCAL AUTHORITIES. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS.

17. <u>CIRCUIT BREAKERS</u> SHALL BE MOLDED CASE, FULLY RATED, CIRCUIT BREAKERS. NO SERIES-RATED CIRCUIT BREAKERS SHALL BE USED. CIRCUIT BREAKER 400A AND LARGER SHALL BE TESTED FOR PERFORMANCE IN ACCORDANCE WITH RATINGS PRIOR TO INSTALLATION. BREAKERS SHALL BE RATED EQUAL OR GREATER THAN MAXIMUM FAULT AMPS OF SYSTEM TO WHICH IT IS CONNECTED.

18. INSTALL HANGERS, ANCHORS, SLEEVES AND SEALS AS INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH RECOGNIZED INDUSTRY PRACTICES TO INSURE SUPPORTING DEVICES COMPLY WITH REQUIREMENTS. COMPLY WITH REQUIREMENTS OF NECA, NEC AND ANSI/NEMA FOR INSTALLATION OF SUPPORTING DEVICES. COORDINATE WITH OTHER ELECTRICAL WORK, INCLUDING RACEWAY AND WIRING WORK, AS NECESSARY TO INTERFACE INSTALLATION OF SUPPORTING DEVICES WITH OTHER WORK. INSTALL HANGERS, SUPPORTS, CLAMPS AND ATTACHMENTS TO SUPPORT CONDUIT PROPERLY FROM BUILDING STRUCTURE. ARRANGE FOR GROUPING OF PARALLEL RUNS OF HORIZONTAL CONDUITS TO BE SUPPORTED TOGETHER ON TRAPEZE TYPE HANGERS WHERE POSSIBLE. INSTALL SUPPORTS WITH MAXIMUM SPACINGS INDICATED.

19. METAL FLEX CABLE, "FLEXCON EXTRA FLEXIBLE STEEL CONDUIT" AS MANUFACTURED BY AFC CABLE, SHALL BE ALLOWED ONLY IN CASEWORK WIRING (HOME RUNS SHALL BE IN CONDUIT), CABLE SHALL BE INSTALLED PER NEC. THE MINIMUM WIRE SIZE SHALL BE NO. 12. DO NOT USE METAL FLEX CABLE AS GROUNDING CONDUCTOR, OR SET SCREW FITTINGS. FITTINGS SHALL BE UL LISTED, INSULATED GROUNDING TYPE, AND IDENTIFIED FOR USE WITH METAL CLAD CABLE.

20. <u>REQUESTS FOR SUBSTITUTION</u> – WHERE A PARTICULAR SYSTEM, PRODUCT OR MATERIAL IS SPECIFIED BY NAME, CONSIDER T AS STANDARD BASIS FOR BIDDING, AND BASE PROPOSAL ON THE PARTICULAR SYSTEM, PRODUCT OR MATERIAL SPECIFIED. OTHER SYSTEMS, PRODUCTS, EQUIPMENT OR MATERIALS MAY BE ACCEPTED ONLY IF IN THE OPINION OF THE ENGINEER, THEY ARE EQUIVALENT IN QUALITY AND WORKMANSHIP AND WILL PERFORM SATISFACTORILY ITS INTENDED PURPOSE. ALL SUCH SUBSTITUTIONS IN MATERIALS OR EQUIPMENT SHALL BE APPROVED IN WRITING BY THE ENGINEER. IF NO DEDUCTION OR ADDITION TO THE BASE BID IS ALLOWED BY THE CONTRACTOR FOR SUCH SUBSTITUTION, IT SHALL BE SO STATED ON THE REQUEST. IF THE APPROVED SUBSTITUTION CONTAINS DIFFERENCES OR OMISSIONS NOT SPECIFICALLY CALLED TO THE ATTENTION OF THE ENGINEER, THE OWNER RESERVES THE RIGHT TO REQUIRE EQUAL OR SIMILAR FEATURES TO BE ADDED TO THE SUBSTITUTED PRODUCTS AT THE CONTRACTOR'S EXPENSE.

b. NO. 8 AND LARGER, STRANDED.

ALL WIRE AND CABLE SHALL BE OF THE SAME NAME BRAND, AND SHALL BE IN THE ORIGINAL WRAPPING. PROVIDE EQUIPMENT GROUNDING CONDUCTORS WITH GREEN TYPE INSULATION. CONDUCTORS INSTALLED IN WIRE WAYS SHALL BE APPROVED FOR USE IN WIRE WAYS. ALL LIGHTING AND RECEPTACLE BRANCH CIRCUIT CONDUCTORS SHALL BE COLOR CODED. FEEDER CABLES AND SERVICE ENTRANCE CONDUCTORS SHALL BE COLOR CODED BY USE OF COLORED PLASTIC TAPE APPLIED WITHIN 6" OF EACH CONDUCTOR END. ALL COLOR CODING SHALL BE AS FOLLOWS:

120/208 PHASE A PHASE B PHASE C NEUTRAL GROUND

BRANCH CIRCUIT WIRING WHICH SUPPLIES MORE THAN ONE LIGHTING FIXTURE THROUGH THE WIREWAY OF OTHER FIXTURES SHALL BE APPROVED FOR USE AT 90 DEGREES C. ALL CONNECTIONS TO SINGLE POLE SWITCHES SHALL BE SO MADE THAT THE OFF OPERATION OF THE SWITCH OPENS THE UNGROUNDED LEG. EACH WIRE IN A PULL BOX, JUNCTION BOX OR EQUIPMENT WIRE CHAMBER SHALL BE LABELED WITH THE PROPER PANEL LETTER AND CIRCUIT NUMBER IDENTIFICATION, AND WHERE TWO OR MORE WIRES ARE SPLICED EACH SHALL BE LABELED. LABELS SHALL BE PRINTED NUMBERS AND LETTERS ON SUITABLE PLASTIC TAPE. WIRES AND CABLES SHALL BE IDENTIFIED BY SUITABLE BRADY OR APPROVED EQUAL ADHESIVE LABEL TAPES. ALL CONDUCTORS INSTALLED IN CABLE TRAYS SHALL BE INSTALLED IN ACCORDANCE WITH NEC, ARTICLE 318.

WIRING ALL CONDUCTORS SHALL BE COPPER OF 98% CONDUCTIVITY WITH 600-VOLT INSULATION. CONDUCTOR SIZES SPECIFIED ARE AWG UP TO 4/0, AND CIRCULAR MILS ABOVE 4/0. CONDUCTORS USED FOR SECONDARY DISTRIBUTION SHALL BE AS FOLLOWS:

a. CONDUCTORS NO. 10 AND SMALLER SHALL BE SOLID,

c. ALL CONTROL WIRING SHALL BE STRANDED.

CONDUCTORS SHALL BE NEC STANDARD TYPE, "THWN" AND UL LABELED, UNLESS OTHERWISE NOTED (U.N.O.).

B VOLT	SYSTEM	277/480	VOLT	SYSTEM
_	BLACK	PHASE A	_	BROWN
_	RED	PHASE B	—	ORANGE
_	BLUE	PHASE C	_	YELLOW
—	WHITE	NEUTRAL	_	WHITE
_	GREEN	GROUND	_	GREEN

MATERIALS AND LABOR NECESSARY TO PROPERLY RECYCLE (IF POSSIBLE) LY DISPOSE OF ALL EXISTING ELECTRICAL ITEMS (LIGHTS, CLOCKS, BEEN REMOVED AND NOT REINSTALLED - UNLESS STATED OTHERWISE BY

THE GENERAL CONFIGURATION OF SYSTEMS SHOWN. REFER TO THE R EXACT DEVICE, QUANTITIES, AND LOCATIONS.

ON CONTINUOUSLY AND SHALL NOT BE SWITCHED. ANY LIGHTING FIXTURES EMERGENCY BATTERY INVERTER PACKS SHALL BE PROVIDED WITH AN THE SAME CIRCUIT BREAKER SUPPLYING THAT LIGHTING FIXTURE SO THAT CK CAN SENSE THE AVAILABILITY OF NORMAL POWER TO THAT FIXTURE. MATICALLY ILLUMINATE FIXTURE IN THE EVENT OF LOSS OF POWER FROM ARDLESS OF THE SWITCH POSITION OF ANY MANUAL OR AUTOMATIC E LIGHTING FIXTURE.

HALL SECURELY MOUNT ALL OUTLET BOXES MOUNTED IN DRYWALL CEILINGS EM. PROVIDE PROPER EXTENSION RINGS SO THAT OUTSIDE EDGE OF RING IS ANY OUTLET BOX NOT MEETING THE ABOVE REQUIREMENT SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

HALL PROVIDE ADEQUATE AND PROPER SUPPORT FOR ALL ELECTRICAL XTURES, ETC. BUILT IN OR MOUNTED ON CEILINGS. NO OUTLET BOX, SHALL BE SUPPORTED FROM ANY ACOUSTICAL CEILING TILE OR DRYWALL UPPORTS THAT ARE MADE FOR USE WITH CEILING GRID SYSTEMS OR TRUCTURE ABOVE. PROVIDE MATERIALS AND LABOR NECESSARY TO COMPLY

FIRE ALARM DEVICES IS $\pm 1/2$ ".

STALL COVERS ON ALL JUNCTION BOXES LOCATED ABOVE CEILING PRIOR TO ISTALLATION.

ABOVE CEILING SHALL BE INSTALLED FACING DOWN AND SHALL BE ATION. COORDINATE WITH OTHER TRADES AND STRUCTURE.

HALL COORDINATE ALL WALL AND FLOOR OUTLET LOCATIONS WITH MILLWORK HALKBOARDS, TACKBOARDS, FURNITURE PLANS, AND ANY OTHER APPLICABLE PRIOR TO INSTALLATION OF ANY BOXES.

IALL BE CONCEALED UNDERGROUND, IN FLOORS, IN CEILINGS, OR IN WALLS

ER LABELING (ON INSIDE COVER) ON ALL BOXES OR DEVICES PROVIDED RD NAME AND CIRCUIT NUMBER IN AN ACCESSIBLE LOCATION. LABELING REMOVING DEVICE FROM BOX BUT SHALL NOT BE VISIBLE UNLESS ES ARE REMOVED.

BOR NECESSARY TO INDICATE CIRCUIT NUMBER FOR EACH SWITCH OR FOLLOWS: DEVICE SHALL BE LABELED WITH 1/4 INCH MINIMUM HEIGHT KER (THOMAS AND BETTS E-Z CODE MARKERS, OR APPROVED EQUAL) IN A WITH ONLY THE REMOVAL OF THE DEVICE COVERPLATE. LABELING SHALL RPLATE INSTALLED.

31. ALL COVER PLATES FOR NEW DEVICES (RCPT & SWITCHES) SHALL BE STAINLESS STEEL.

\$ os	WALL MOUNTED OCCUPANCY SENSO PASSIVE INFRARED (PIR) DETECTION SOUND DETECTION (MICROPHONICS) TECHNOLOGY. WALL MOUNTED SENS NORMAL WALL SWITCH MOUNTING H LOW-VOLTAGE TYPE WITH POWER F AMP RATING AS NECESSARY PER M INSTRUCTIONS. THIS IS REQUIRED
	ONE SENSOR IS INDICATED CONTROL LIGHTING SUCH AS IN A LARGER R ONLY ONE WALL SENSOR CONTROL LIGHTING FIXTURES LINE-VOLTAGE T USED. PROVIDE SENSOR SWITCH W SERIES OR APPROVED EQUAL. REF WWW.SENSORSWITCH.COM FOR DETA ANY MANUAL LIGHT SWITCHES, IF II BE ON THE LOAD SIDE OF THE OC SENSORS; ALL LIGHTING SHALL BE EVENT OF OCCUPANCY NOT BEING
03	LOW-VOLTAGE CEILING-MOUNTED C CORNER-MOUNTED, AS SPECIFIED OCCUPANCY SENSOR WITH BOTH F (PIR) DETECTION AND ULTRASONIC (MICROPHONICS) DUAL TECHNOLOG <u>TYPE</u> WITH POWER PACKS WITH 20 NECESSARY PER MANUFACTURER'S WATTSTOPPER DT-300 SERIES (CE DT-200 SERIES (CORNER MOUNTEI EQUAL. REFER TO WWW.LEGRAND.U FOR DETAILED INFORMATION. ANY M SWITCHES, IF INDICATED, SHALL BE OF THE OCCUPANCY SENSORS; ALI SHUT OFF IN THE EVENT OF OCCU
LV2 ^{\$}	LOW VOLTAGE BUTTON SWITCH. # . QUANTITY OF BUTTONS 47—1/2"A.F
\$ 3	3-WAY SWITCH 47-1/2"A.F.F. OR
\$4	4-WAY SWITCH 47-1/2"A.F.F. OR
F	FIRE ALARM PULL STATION MOUNTED
Н	FA HEAT DETECTOR
S	FA PHOTO-ELECTRIC SMOKE DETECT
HA	FA ADDRESSABLE KITCHEN HOOD AL
R	FA ADDRESSABLE RELAY, FAN SHUT
DS	DUCT MOUNTED SMOKE DETECTOR
L	FIRE ALARM FLASHING LIGHT MOUNT THE BOTTOM OF THE LENS, UNLESS STROBE SHALL BE RATED FOR MINI
HL	FIRE ALARM HORN AND FLASHING LI TO THE BOTTOM OF THE LENS, UNL CEILING; STROBE SHALL BE RATED F
	ISOLATED GROUND BUS

ELECTRICAL ABBREVIATIONS

	А	AMPS
	AFCI CB	ARC FLASH CKT INTERRUPT
	AFF	ABOVE FINISHED FLOOR
	AICS BKR	AMPS INTERRUPTING CAPAC BREAKER
	С	CONDUIT
	CD	CANDELA
	CLG	CEILING
	СКТ	CIRCUIT
	EX	EXISTING TO REMAIN
	F	FUSE
	FACP	FIRE ALARM CONTROL PANE
	F/A	FIRE ALARM
	FLR	FLOOR
	GFI	GROUND FAULT CKT INTER
	GRD	GROUND
	LTG	LIGHTING
	МСВ	MAIN CIRCUIT BKR
	MTD	MOUNTED
	NEC	NATIONAL ELECTRICAL CODE
	P&P	PLUG AND PLAY
	Ρ	POLE
	PWR	POWER
	RE	EXISTING TO BE RELOCATED
	RV	EXISTING TO BE REMOVED
	UC	UNDER CABINET
	UL	UNDERWRITERS LABORATORI
	UNO	UNLESS NOTED OTHERWISE
	V	VOLTS
	W	WATTS OR WIRE
	WAP	WIRELESS ACCESS POINT
	WP	WEATHERPROOF
		PHASE
~		

ELECIRICAL	LEGEN	D	
SOR WITH BOTH			
S) DUAL NSORS SHALL BE AT HEIGHT. USE		CEILING LIGHTING OUTLETS	
PACKS WITH 20 MANUFACTURER'S D WHEN MORE THAN ROLLING THE SAME	$\mathbf{O}\left[\mathbf{\Theta}\right]$	LIGHTED EXIT SIGN – SHADED QUADRANTS DENOTE LIGHTED FACE, ARROWS DENOTE DIRECTION	
ROOM. WHEN DLS THE SAME TYPE MAY BE		SHADED LIGHTING FIXTURES INDICATE THAT THE FIXTURE HAS AN EMERGENCY BATTERY INVERTER UNIT IN THE BALLAST COMPARTMENT	
EFER TO TAILED INFORMATION. INDICATED, SHALL	В	"B" INDICATES THE FIXTURE TYPE	SEAL
CCUPANCY E SHUT OFF IN THE G DETECTED.	\$ @\$.	LOWER CASE LETTERS "a" AT LIGHTING OUTLETS, AT SWITCHES AND AT OCCUPANCY SENSORS INDICATE THE FIXTURE CONTROLLED	
OR O ON DRAWING, PASSIVE INFRARED C SOUND DETECTION OGY. USE <u>LOW-VOLTAGE</u> 20 AMP RATING AS S INSTRUCTIONS. CEILING MOUNTED),	1L1-1,3	HOMERUN TO PANELBOARD. "L1" INDICATES THE PANELBOARD NUMBER. "1,3" INDICATES THE BRANCH CIRCUIT NUMBERS. HATCH MARKS DENOTE NUMBER OF CONDUCTORS EXCLUDING GROUND CONDUCTOR. NO HATCH MARKS DENOTES TWO #12 CONDUCTORS AND ONE #12 GROUNDING CONDUCTOR	TIMOTHY W. SMITH
ED), OR APPROVED US/WATTSTOPPER.COM MANUAL LIGHT		CONDUIT CONCEALED IN CEILING, WALL OR FLOOR	PE - 64454
BE ON THE LOAD SIDE ALL LIGHTING SHALL BE CUPANCY NOT BEING	۲	CONDUIT STUB-UP - 1" C. UNO ON DRAWINGS	B C C C C C C C C C C C C C C C C C C C
	J	JUNCTION BOX	
AFTER 'LV' INDICATES	S	SPEAKER – CEILING	
	E	EQUIPMENT CONNECTION OUTLET	Street D
R AS INDICATED	©	CLOCK OUTLET – MOUNT 96"A.F.F.	
R AS INDICATED	$\langle T \rangle$	TELEVISION RECEIVER OUTLET	
PICALLY REFERS TO		BOND TO BLDG GROUND PER NEC 250.	Ü € [©] 8 [©]
ED 48"A.F.F.	\square	DUPLEX RECEPTACLE OUTLET WITH GROUND 18"A.F.F. – NEMA 5–20R	
CTOR CLG MOUNTED.	$\langle \ominus \rangle$	DUPLEX RECEPTACLE OUTLET WITH GROUND MOUNTED IN MILLWORK – NEMA 5–20R	luc.
ALARM	gfi 🛈	DUPLEX RECEPTACLE OUTLET WITH GROUND	ative,
IT DOWN		5–20R	Liadc
	\oplus	QUAD RECEPTACLE OUTLET WITH GROUND 18"A.F.F. – NEMA 5–20R ABOVE COUNTER	ric Coo
NTED 80-1/2"A.F.F., TO SS INDICATED IN A CEILING; NIMUM OF 75Cd	\oplus	QUAD RECEPTACLE OUTLET MOUNTED 42"A.F.F. OR 8" ABOVE COUNTERTOP (TO CLEAR BACK SPLASH) OR AS INDICATED – NEMA 5–20R	ay Elect
LIGHT MOUNTED 80-1/2"A.F.F., NLESS INDICATED IN A FOR MINIMUM OF 75Cd	\bigcirc	DUPLEX RECEPTACLE OUTLET WITH GROUND – FLOOR TYPE NEMA 5–20R	
	0	DUPLEX RECEPTACLE OUTLET WITH GROUND MOUNTED 42"A.F.F. OR 7" ABOVE COUNTERTOP (TO CLEAR BACK SPLASH) OR AS INDICATED – NEMA 5–20R	hts, Flori
	\bigcirc	SPECIAL RECEPTACLE 18" AFF - NEMA TYPE SPECIFIED ON DRAWING	Heig
		DATA OUTLET – WALL	i FIC
PTER BREAKER	Þ	DATA/TELEPHONE OUTLET - WALL	H
CITY SYMMETRICAL		DATA/TELEPHONE OUTLET – IN FURNITURE KNOCKOUT	
	$\overline{\bigcirc}$	SWIPE CARD READER WITH KEYPAD AT 44" AFF.	STRIC No 18-1 ⁻ trus Drive
	\sim		
			PRO.
	7		
			SPECIFICATIONS, NOTES, LEGEND, & ABBREVIATIONS
DE)			DRAWN JSA
\leq			CHECKEDTWSDATE10/25/18
			REVISIONS
)			11/12/2018
RIES		3720 NW 43rd Street, Suite 106 Gainesville Florida 32606	FILE 7163010

Phone: 352-372-6967 / Fax: 352-372-7232 S Н Е Е Т EO,

PROJECT: 18013

Certificate of Authorization: 00008813

CONSTRUCTION DOCUMENTS

www.CampbellSpellicy.com

8	
NOTE: CONTROL CIRCUIT, #12 AWG PANELBOARD	
HOTOCELL MOUNTED	
N A CAST WP UNCTION BOX WITH NOBSTRUCTED VIEW IF SKY. INTERMATIC	
4033 SERIES OR PPROVED EQUAL. NEMA 1 HINGED BOX FOR SURGE SUPPRESSION MOUNTED ADJACENT TO	
CONTACTOR. PROVIDE INLINE TVSS UNITS FOR EACH OUTGOING CIRCUIT (EDCO SHA SERIES OR APPROVED EQUAL).	
6 POLE LTG	SEAL
ELECTRONICALLY HELD LIGHTING CONTACTOR IN NEMA 1 ENCLOSURE WITH	
COIL VOLTAGE AND POLES AS SHOWN. LOCATE CONTACTOR IN MECH/ELEC ROOM 135. PROVIDE NAMEPLATE. EATON CN35 SERIES OR APPROVED EQUAL.	
EXTERIOR LIGHTING CONTROL DIAGRAM	
	TIMOTHY W. SMITH PE - 64454
	B 1 0 1 0 1 0 1 0 0 1 0 0 0 0 0 0 0 0 0
	Inst Street
DESCRIPTION	
2'X4' RECESSED LED TROFFER WITH ACRYLIC DIFFUSER, 4000K COLOR TEMPERATURE, 4000–5000 LUMENS PER FIXTURE, NON–DIMMING DRIVER, MINIMUM 80 COLOR RENDERING	
NDEX, UNIVERSAL VOLTAGE OR 120V, FINISH COLORS AND DIFFUSER AS APPROVED BY ARCHITECT, EMERGENCY BATTERY PACK AS INDICATED ON DRAWINGS, AND WITH MOUNTING OPTION AS INDICATED ON DRAWINGS.	
HE WILLIAMS HETG-S24 SERIES OR FOR MANUFACTURERS NOT LISTED COMPLY WITH 'REQUEST FOR SUBSTITUTION' SECTION IN ELECTRICAL SPECIFICATIONS ON SHEET E0.1; ONLY PROPOSED FIXTURES SUBMITTED (10) BUSINESS DAYS PRIOR TO PRICING WILL BE REVIEWED.	ve, Inc.
SUSPENDED 4' PRISMATIC LENSED STRIP LIGHT, ACRYLIC LENS, 4000K COLOR TEMPERATURE, 2,000 LUMENS PER FIXTURE, NON—DIMMING DRIVER, UNIVERSAL VOLTAGE OR 120V.	operati
HE WILLIAMS 75L SERIES OR FOR MANUFACTURERS NOT LISTED COMPLY WITH 'REQUEST FOR SUBSTITUTION' SECTION IN ELECTRICAL SPECIFICATIONS ON SHEET E0.1; ONLY PROPOSED FIXTURES SUBMITTED (10) BUSINESS DAYS PRIOR TO PRICING WILL BE REVIEWED.	ctric Co
5" DIAMETER RECESSED LED DOWNLIGHT WITH THIN PROFILE, MINIMUM 2,000 OUTPUT LUMENS, 4000K CCT, ACRYLIC LENS, MEDIUM BEAM DISTRIBUTION, FIXTURE COLOR AS SELECTED BY	lay Ele
PROVIDE COMPONENTS FOR WET LISTING WHEN UNDER COVERED EXTERIOR CEILING, UNIVERSAL /OLTAGE DRIVER AND INTEGRAL EMERGENCY BACKUP DRIVER AS INDICATED ON DRAWINGS.	
HE WILLIAMS 6PR SERIES OR FOR MANUFACTURERS NOT LISTED COMPLY WITH 'REQUEST FOR SUBSTITUTION' SECTION IN ELECTRICAL SPECIFICATIONS ON SHEET E0.1; ONLY PROPOSED FIXTURES SUBMITTED (10) BUSINESS DAYS PRIOR TO PRICING WILL BE REVIEWED.	hts, Fl
9"x4' WRAPAROUND LED FIXTURE WITH ACRYLIC DIFFUSER, 4000K COLOR TEMPERATURE, 4000 LUMENS PER FIXTURE, NON-DIMMING DRIVER, MINIMUM 80 COLOR RENDERING INDEX, JNIVERSAL VOLTAGE OR 120V, FINISH COLORS AND DIFFUSER AS APPROVED BY ARCHITECT.	Heigh
DAYBRITE OWL SERIES OR FOR MANUFACTURERS NOT LISTED COMPLY WITH 'REQUEST FOR SUBSTITUTION' SECTION IN ELECTRICAL SPECIFICATIONS ON SHEET E0.1; ONLY PROPOSED	FFI ystone
4' NARROW LOW-PROFILE WRAPAROUND LED FIXTURE WITH ACRYLIC DIFFUSER, 4000K COLOR	
RENDERING INDEX, UNIVERSAL VOLTAGE OR 120V, FINISH COLORS AND DIFFUSER AS APPROVED BY ARCHITECT.	Drive R
DAYBRITE OWL SERIES OR FOR MANUFACTURERS NOT LISTED COMPLY WITH 'REQUEST FOR SUBSTITUTION' SECTION IN ELECTRICAL SPECIFICATIONS ON SHEET E0.1; ONLY PROPOSED FIXTURES SUBMITTED (10) BUSINESS DAYS PRIOR TO PRICING WILL BE REVIEWED.	No No Sitrus
JNDERCABINET SMALL PROFILE LED STRIP WITH INTEGRAL ROCKER SWITCH, 4000K CCT, 1200 DUTPUT LUMEN — PROVIDE ALL MOUNTING COMPONENTS REQUIRED FOR A COMPLETE AND SECURE SYSTEM.	
HE WILLIAMS 1SF SERIES OR FOR MANUFACTURERS NOT LISTED COMPLY WITH 'REQUEST FOR SUBSTITUTION' SECTION IN ELECTRICAL SPECIFICATIONS ON SHEET E0.1; ONLY PROPOSED FIXTURES SUBMITTED (10) BUSINESS DAYS PRIOR TO PRICING WILL BE REVIEWED.	NEV
WALL OR CEILING MOUNTED LED EXIT SIGN DIE-CAST ALUMINUM HOUSING WITH A BLACK FINISH, BATTERY BACK-UP, 6" HIGH RED LETTERS ON A BRUSHED ALUMINUM FACEPLATE. PROVIDE SINGLE OR DOUBLE FACE SIGN WITH DIRECTIONAL ARROWS AS INDICATED ON THE	ELECTRICAL FDEMOLITION AND
DRAWINGS DAYBRITE LIGHTING MCPHILBEN SERIES, EMERGILITE OR BEGHELLI.	LIGHTING FLOOR PLAN
	DRAWN JSA
	CHECKED TWS DATE 10/25/18
	REVISIONS
AS SHALL BE LOW A Street	11/12/2018 Suite 106
CONTROL DIAGRAM	da 32606 -372-7232 S H E E T
ENGINEERING Certificate of Authorization:	00008813
PROJECT: 18013 CONSTRUCTION DOC	

RISER KEY NOTES

- STANDOFF ISOLATED BUS BAR (IBB WALL MTD), BOND PANEL-GROUND BUS TO BLDG STEEL, GROUND BAR SHALL BE EQUAL TO $\langle 1 \rangle$ HARGER TYPE GBIT $(1/4" \times 8")$, # GBIS1428EE.
- TVSS, REFERENCE DIVISION 26 SPECIFICATION SECTION #264213, APT XDS ASCO MODEL # 430 120Y P10 A C A J, WITH FORM C DRY CONTACT, SPD AC SURGE PROTECTION. PURCHASE AT SALES@SURGESUPPLY.COM, (800) 365-5957.
- $\langle 3 \rangle$ REVENUE METER, PROVIDE CONCRETE STAND FOR METER BASE NEXT TO SERVICE TRANSFORMER, PER CITY STANDARDS.
- TRANSFER SWITCH 4P4W. REFERENCE DIVISION 26 SPECIFICATION SECTION #263800, ASCO 7000 SERIES SERVICE ENTRANCE TRANSFER SWITCH, WITH MAIN 800A BREAKER (WITH 4" CONCRETE PAD, AND SHUNT TRIP BREAKER FOR FIRE DEPT), NEMA 1.
- $\langle 5 \rangle$ TO REMOTE FUEL AND AND GENERATOR MONITOR (RJ14), PROVIDE 1.5"C TO BLDG, STUB UP AT UTILITY TELEPHONE BACKBOARD.
- $\langle 6 \rangle$ SEE CABLE SCHEDULE FOR WIRE SIZING.
- PROVIDE 800 AMP SUBMETER, BY ENERGYTRACKING.COM, EQUAL TO METER
- # WEM-MX-333MV (WEB ENABLED, RJ45, 4TH OR 5TH GEN) WITH CT'S (7) # SCT-0750 (800A PRI / 333 MV SEC) AND WITH 3P-FUSE BLOCK, METER PROVIDED WITH TRANSFER SWITCH ENCLOSURE (SEE KEY-NOTE 4). ENERGY TRACKING PHONE: (800) 395-6036.
- $\langle 8 \rangle$ LIGHTING CONTACTOR WITH 3 POSITION SWITCH, 10 POLE ENCLOSED LIGHTING RELAY, AND PHOTO-CELL SWITCH.
- $\langle 9 \rangle$ PAD MOUNTED TRANSFORMER, PAD INSTALLED BY CONTRACTOR, TRANSFORMER FURNISHED BY CLAY ELECTRIC.
- $\langle 10 \rangle$ 3 EA 3/4"X20' COPPER GROUND RODS, SEPARATED BY 10' EACH, BOND TO BLDG GROUND WITH 1/0 CABLE.

СКТ

- PROVIDE FIBERGLASS REINFORCED POLYMER GRATNG AS MANUFACTURED BY BEDFORD PLASTICS, 3 FT MINIMUM WIDTH (50# PER (1) SQFT LIVE LOAD).
- $\langle 12 \rangle$ INTERMATIC PHOTOCELL #K4236C MOUNTED ON CAST WP-JBOX.

GENERATOR. REFERENCE DIVISION 26 SPECIFICATION SECTION #263213. PROVIDE A 48-HR TANK WITH LEAK AND LEVEL ALARMS, (13) AND FUEL POLISHER PARKER #510MAM, PROVIDE FUEL SENSORS EQUAL TO PNEUMERCATOR #LS600LBDN, LS600, LC1002. PROVIDE CAT DA-200 ALUMINUM ENCLOSURE (LOCAKABLE 3R/12, SOUND ATTENUATED), WITH FTDW008 SUB BASE TANK, PROVIDE C7.1 CAT GENERATOR SET (300 EKW), PROVIDE GENERATOR MAIN CB WITH SHUNT TRIP (FOR FIRE DEPT).

	FEEDERS	BF	RANCH CKT
СВ АМР	WIRING	CB AMP	WIRING
100	4#3, 6 GND, 1-1/4"C	2/20	2#12, #12G 1/2"C
125	4#1, 6 GND, 1-1/2"C	2/25	2#12, #10G 1/2"C
150	4#1/0,# 6 GND, 2"C	2/30	2#10, #10G 1/2"C
175	4#2/0, #6 GND, 2"C	2/35	2#10, #10G 1/2"C
200	4#3/0, #6 GND, 2-1/2"C	2/40	2#8, #10G 3/4"C
225	4#4/0, #4 GND, 2-1/2"C	3/25	3#12, #10G 3/4"C
250	4#250, #4 GND, 3"C	3/30	3#10, #10G 3/4"C
300	4#350, #4 GND, 3"C		
350	4#500, #3 GND, 4"C		
400	4#600, #3 GND, 4"C		
600	2(4#350, #1 GND, 3"C)		
800	2(4#600, #1/0 GND, 4"C)		

ELEC SERV

208Y/120,

3PH/4W

300 /

<u>GEN</u> 300 KW

80% PF

- SHALL BE PROVIDED WITH DOOR IN DOOR
- AT ONE LOCATION, THE GENERATOR.

81	V-3PH 4W		KP			אלכב י		P		-		RECESSED MANTE	
۷ ب	LOAD	P/TRIP	X		۲ م		АМ В		2	∣ Cł X	VI RKK P/TRIP	LOAD	СКТ
R١	M 106	1/20	R	6.0	3.0					R	1/20	RM 102-103	2
R١	M 107	1/20	R			4.5	10.0			R	1/20	EWC [N2]	4
R١	M 108	1/20	R					6.0	4.5	R	1/20	EXTERIOR RCPT	6
R١	M 109	1/20	R	7.5	6.0					R	1/20	RM 113	8
R١	M 109	1/20	R			9.0	4.5			R	1/20	RM 114	10
R١	M 131	1/20	R					1.5	3.0	R	1/20	RM 100A	12
R١	M 100A	1/20	R	3.0	1.5					R	1/20	RM 140	14
R١	M 139	1/20	R			6.0	6.0			R	1/20	RM 131	16
RN	M 132	1/20	R					4.5	6.0	R	1/20	RM 112	18
	M 118	1/20	R	3.0	6.0	7.0				R	1/20	RM104	20
	M 117 CPU	1/20				3.0	/.5	7.0	4 5	R	1/20	RM 116	22
	M 117 CPU	1/20		6.0	6.0			3.0	4.5		1/20	RM 110	24
RN	M 122 123 124	1/20	R	0.0	0.0	6.0	6.0			R	1/20	RM 117	28
RN	M 117 CPU	1/20	R					6.0	6.0	R	1/20	RM 117	30
R١	M 116	1/20	R	3.0	7.5					R	1/20	RM 117	32
R١	M 116 HOOD	1/20	R			4.5	6.0				1/20	RM 100A	34
R١	M 116 REFRIG	1/20	R					3.0	6.0	R	1/20	RM 100B	36
SF	PARE	1/20			6.0						1/20	RM 100B	38
SF	PARE	1/20					6.0				1/20	RM 100B	40
SF	PARE	1/20		\sim	\sim	\sim	\sim	\sim	\sim		1/20	SPARE	42
			(65	5.0	79	9.0	54	.0	Ŋ		AM	Ρ
ЪТ	TES:			\sim	\sim	\sim	\sim	\sim	\sim	$\underline{1}$	7	CONNECTED: 66.0)
[N	N1] PROVIDE NEW BR	EAKERS	AND	PANEL	PER SP	PECS.			_			DEMAND: 29.5)
[N	N2] CKT 4 PROVIDE	GFCI REC	EPT	ACLE FC	R EWC								
_	PR4		100	DA MLO			SCR :	22 KA	IC		N	NOTE : [N1]	
8\	V-3PH 4W	СКТ В	KR		F	'HASE L	.OAD AM	P			KT BKR	RECESSED MNTD	
	LOAD	P/TRIP	X	,	۹		B	(2	X	P/TRIP	LOAD	СКТ
R١	M 125,126	1/20	R	3.0						R	1/20	SPARE	2
R١	M 127	1/20	R			3.0	0.0			R	1/20	SPARE	4
R١	M 128 CPU	1/20	R					3.0	1.5	R	1/20	COPIER	6
R١	M 128 CPU	1/20	R	3.0	4.5					R	1/20	RM 132	8
R١	M 128 CPU	1/20	R			3.0	3.0			R	1/20	RM 128A	10
SF	PECIAL RCPT		R					1.5	3.0	R	1/20	RM 135	12
RN	M 136	2/20	R	1.5	1.5					R	1/20	FACP	14
R١	M 136	1/20	R			3.0	3.0			R	1/20	RM 136	16
RN	M 136	1/20	R		7.0			3.0	3.0	R	1/20	RM 136	18
IR	RIGATION CTLR	1/20	R	1.5	3.0					R	1/20	RM 136	20
			R			1.5	3.0		7.0	R	1/20	RM 136	22
Αι	UTO GATE	2/20		1 5	7.0			1.5	3.0		1/20	RM 136	24
IC		2/20		1.5	3.0	1.5	3.0				1/20		20
FV	WC [N4]	1/20	R			1.5	5.0	10.0	3.0	R	1/20	TELLER DRAWER	30
EV	WC [N4]	1/20	R	10.0	6.0			10.0	0.0	R	1/20	RM 136	32
SF	PARE	1/20				6.0	0.0			R	1/20	SPARE	34
R١	M 137	1/20	R					6.0	1.5	R	1/20	SPARE	36
R١	M 138	1/20	R	6.0	3.0						1/20	SPARE	38
R١	M 139	1/20	R			0.0	3.0				1/20	SPARE	40
SF	PARE	1/20	R	\sim	\sim	\sim	\sim	0.0	<u>~0.0</u>		1/20	SPARE	42
			(48	3.0	33	3.0	40).0	В		AM	P
ΣТ	TES:			\sim	\sim	\sim	\sim	\sim	\sim	٢		CONNECTED: 40.	3
[N	N1] PROVIDE NEW BR	EAKERS	AND	PANEL	PER SP	PECS.						DEMAND: 18.	1
[N	N2] PROVIDE EQUIPME	ENT DISC	'T.										
[N	N3] CHECK WITH ARC	HITECT F	OR	EQUIP N	NOT SHO	DWN ON	PLANS.						
[N	N4] CKTS 36-38 PRC	DVIDE 2P	40	A FUSED	DISC'T								
_				~ ~			<u> </u>	0.5		_			
~		$\sim \sim \sim$			\sim	$\sim \sim$		22 1/ 1		\sim	<u>~~</u> ,		\sim
<u> </u>			100	ja ml0 T			SCK :	22 KA	IU	1	۲ 		
אγ א	V-SPH 4W	CKT B	KR T		F	'HASE L I	OAD AM	Р 			KT BKR	RECESSED MNTD	0.11
		P/TRIP	X -	1 -	4		R		; 	X .	P/IRIP		
ВĄ	AI CHARGER	1/20	E -	1.0	2.0	0.5					0./00		2
ΒL	LOCK HTR, 500W	20/2				2.5	2.0	25	2.0		∠/20		4 6
сr	PARE	1/20			2.0			2.5	2.0		2/20		о 0
SL SL	PARF	1/20			2.0						1/20	SPARF	10
St St	PARF	1/20									1/20	SPARF	12
Jr [T	TG RELAY PC	1/20		0.5						-	1/20	SPARF	14
<u>י-</u> [א]	N1]-A	., 20		0.0		2.5					1/20	SPARE	16
י' P(OLE LTG	2/20				2.5		2.5	2.5	L	., 20	[N4]	18
	N1]—B	, _ •		2.5	2.5						2/20	PARKING LTG-B	20
'' P(- OLE LTG	2/20				2.5	4.6			- L	, _ •	[N3, N4]	22
[N	N3, N4]	, _ •						4.6	4.6		2/20	PARKING LTG-C	24
- PA	- ARKING LTG—C	2/20		4.6	3.0					M	,	HYSECURITY	26
[N	N1,N2]		L			2.0	3.0			м	3/20	SLIDE-NOTE [N2]	28
ΒL	LDG SIGN	2/20	L					2.0	3.0	М		GATE 1-HP	30
		I	1	19).0	20).0	24	.0		ı	AM	P
ЭΤ	TES:			ــــ ـــ								CONNECTED: 21.	0
, [И	N1] PROVIDE NEW BR	EAKERS	AND	PANEL	PER SP	PECS.						DEMAND: 23.	7
ΓN	N2] PROVIDE LOCKAR	LE EQUIP	MEN	IT DISC"	T (NEMA	3R/12	2)						
 [M	N3] PROVIDE BREAKE	R WITH O	GECL		<u>, , = 1017</u>		,						
'' [N		TG CONT	АСТО	DR/ рни	TOCELL								
[Ν ΒL ΟΤ [Ν [Ν [Ν	N1,N2] LDG SIGN TES: N1] PROVIDE NEW BR N2] PROVIDE LOCKABI N3] PROVIDE BREAKER N4] CONTROL WITH L	2/20 EEAKERS LE EQUIP R WITH C TG CONT,	AND MEN GFCI	PANEL IT DISC ²²	PER SP T (NEMA	2.0 20 PECS. 3R/12	3.0).0	2.0	3.0	M	3/20	SLIDE-NOTE [N2] GATE 1-HP AM CONNECTED: 21. DEMAND: 23.	

NI	PM1		300)A MLO			SCR :	22 KAI	IC		N	OTE : [N1]		
20/2	208V-3PH 4W	СКТ ВІ	KR		P	'HASE L	OAD AM	P		Cł	KT BKR	SURFAC	E MNTD	
СКТ	LOAD	P/TRIP	X	ļ	4	E	3	(2	Х	P/TRIP	LOAD	1	СКТ
1	INDOOR		м	12.4	12.4					М		OUTDOOR		2
3	AHU—1	2/25	м			12.4	12.4			М	2/20	CU-1		4
5	INDOOR		м					28.0	16.2	М				6
7	AHU-2	2/30	М	28.0	16.2					М	3/25	OUTDOOR		8
9	INDOOR		м			32.0	16.2			М		CU-2		10
11	AHU-3	2/35	м					32.0	0.0			SPACE		12
13	INDOOR	· · · ·	М	32.0	0.0							SPACE		14
15	AHU-4	2/35	М			32.0	17.1			М		OUTDOOR		16
17	INDOOR	· · · ·	М					35.0	17.1	М	2/25	CU-4		18
19	AHU-5	2/40	М	35.0	20.3					М				20
21	INDOOR	· · · ·	М			35.0	20.3			М	3/30	OUTDOOR		22
23	AHU-6	2/30	М					35.0	20.3	М		CU-5		24
25	EF-1	1/20	М	0.1	20.3					М				26
27	EF-2	1/20	М			0.7	20.3			М	3/30	OUTDOOR		28
29	EF-3	1/20	М					0.1	20.3	М		CU-6		30
31		$\boxed{}$	Н	21.6	17.1					М		OUTDOOR		32
33 (2/30	Гн			21.6	17.1			М	2/25	CU-3		34
35 (INDOOR)м					1.0	30.0	H	$\langle \cdot \cdot \rangle$	INSTANT	\mathcal{T}	36
37 (AHU-7	2/15)м	1.0	30.0					H	2/40	EWH [N3]		38
39 (SPACE					0.0	18.0			М	$\left\langle \right\rangle$	OUTDOOR	,	40
41 (SPACE			\sim	\sim	\sim	\sim	~ 0. ~	18,0	м	2/30	CU-7		42
$\overline{\Lambda}$			7	24	7.0	25	6.0	25.	3.0	37			AMP	
<u> </u>	NOTES:			$\overline{\ }$	$\overline{}$	/	<u>1 \</u>	CONNECTED:	252.0					
	[N1] PROVIDE NEW BR	EAKERS	AND	PANEL	PER SP	ECS 26	0420.					DEMAND:	260.1	

DEMAN	D FACTOR		CONN'D		DEMAND	
LOAD	DESCRIPTION	PNL	KVA	%	KVA	AMPS
М	MOTOR	PM1	78.2	100%	78.2	
Н	HEATING	PM1	12.4	125%	15.5	
L	LIGHTING	PL2	13.2	125%	13.9	
R	RECEPTACLE	PR3	21.5	50%	10.8	
R	RECEPTACLE	PR4	13.0	50%	6.5	
E	EQUIPMENT	PL5	0.8	80%	0.6	
L	LIGHTING	PL5	5.5	125%	6.9	
М	MOTOR	PL5	1.1	100%	1.1	
E	EQUIPMENT	PL5	0.7	80%	0.6	
W 1	1ST 10-KVA REC	PR3			5.0	
W2	LARGEST MTR	PM1	22.0	12.5%	2.8	
	ADD 25% NEC				32.0	
SUM KY	/Α				174	
SUM AI	MPS (120/208)	174	/.36		=	483

	EQUIPMEN	NT SCHEDULE	
DESIG.	<u>CONDUCTORS</u>	CONDUIT SIZE	DISCONNECT
AHU-1	2#12, 1#12 GRD	3/4"	BY DIVISION 23
AHU-2	2#10, 1#12 GRD	3/4"	BY DIVISION 23
AHU-3	2#10 1#12 GRD	1-1/2"	BY DIVISION 23
AHU-4	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
AHU-5	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
AHU-6	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
AHU-7	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
CU-1	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
CU-2	4#12, 1#12 GRD	1-1/2"	BY DIVISION 23
CU-3	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
CU-4	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
CU-5	4#12, 1#12 GRD	1-1/2"	BY DIVISION 23
CU-6	4#12, 1#12 GRD	1-1/2"	BY DIVISION 23
CU-7	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
EF-1	2#12, 1#12 GRD	1-1/2"	BY DIVISION 23
EF-2	2#12, 1#12 GRD	1-1/2"	BY DIVISION 23
EF-3	2#12, 1#12 GRD	1-1/2"	BY DIVISION 23
EWH	2#12, 1#12 GRD	1-1/2"	BY DIVISION 23
INSTA-HOT	2#12, 1#12 GRD	1-1/2"	BY DIVISION 23
P-14	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23
 P-15	3#12, 1#12 GRD	1-1/2"	BY DIVISION 23

[N2] CKTS 31—33 PROVIDE 2P 30A FUSED DISC'T

[N3] CKTS 36-38 PROVIDE 2P 40A FUSED DISC'T

	100	A MLO)		SCR :	22 KA	IC		(N	OTES: [N1]	
CKT B	KR	PHASE LOAD AMP				Cł	CKT BKR RECESSED MNTD				
P/TRIP	Х	А		В		С		Х	P/TRIP	LOAD	СКТ
1/20	L	5.4	5.4					L	1/20	CORR. 115,121	2
1/20	L			5.4	5.4			L	1/20	CORR. 130-134	4
1/20	L					5.4	5.4	L	1/20	RM 127-129	6
1/20	L	5.4	5.4					L	1/20	RM 131	8
1/20	L			5.4	5.4			L	1/20	RM 137-139	10
1/20						0.0	0.0		1/20	SPARE	12
1/20	L	4.8	4.8					L	1/20	RM 107,108	14
1/20	L			4.8	4.8			L	1/20	RM104,106	16
1/20	L					4.8	4.8	L	1/20	RM 101,102,103	18
1/20	L	4.8	6.4					L	1/20	RM 107, 107A	20
1/20				0.0	4.4			L	1/20	RM 104, 106	22
1/20						0.0	2.6	L	1/20	RM 101-02,03	24
1/20		0.0	6.5					L	1/20	RM 105	26
1/20				0.0	2.1			L	1/20	RM 112	28
1/20						0.0	0.0		1/20	SPARE	30
1/20		0.0	0.0						1/20	SPARE	32
1/20				0.0	0.0				1/20	SPARE	34
1/20						0.0	0.0		1/20	SPARE	36
1/20		0.0	0.0						1/20	SPARE	38
1/20				0.0	0.0				1/20	SPARE	40
1/20		$\langle \rangle$	~~~	\sim	\sim	-0.0/	V 0 .0		1/20	SPARE	42
		49	9.0	38	3.0	23	5.0	К		A	νР
<u> </u>				\sim		\sim	\sim)		CONNECTED: 3	7
[N1]_PROVIDE NEW BREAKERS AND PANEL PER SPECS.						DEMAND: 4	·6				
	CKT BI P/TRIP 1/20 1/20 1/20 1/20 1/20 1/20 1/20 1/20	1000 CKT BKR P/TRIP X 1/20 L 1/20 L	100A MLO CKT BKR P/TRIP X 1/20 L 1/20 O.0 1/20 O.0 1	IOOA MLO CKT BKR P P/TRIP X A 1/20 L 5.4 5.4 1/20 L 4.8 4.8 1/20 L 4.8 4.8 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 L 4.8 6.5 1/20 D 0.0 6.5 1/20 O 0.0 0.0 1/20 O O <t< td=""><td>IODA MLO CKT BKR PHASE L P/TRIP X A I 1/20 L 5.4 5.4 1/20 L 4.8 4.8 1/20 L 4.8 4.8 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 D 0.0 0.0 1/20 O 0.0 0.0 1/20 O</td><td>IOOA MLO SCR : CKT BKR PHASE LOAD AM P/TRIP X A B 1/20 L 5.4 5.4 5.4 1/20 L 4.8 4.8 4.8 1/20 L 4.8 4.8 4.8 1/20 L 4.8 6.4 4.4 1/20 L 0.0 2.1 4.4 1/20 O.0 0.0 2.1 4.4 1/20 O.0 0.0 0.0 1.4 1/20 O.0 0.0 0.0 0.0</td><td>100A MLO SCR : 22 KA CKT BKR PHASE LOAD AMP P/TRIP X A B 0 1/20 L 5.4 5.4 1 1/20 L 4.8 4.8 1 1/20 L 4.8 4.8 1 1/20 L 4.8 4.8 1 1/20 L 4.8 6.4 1 1/20 L 4.8 6.4 1 1/20 L 4.8 6.4 1 1/20 0.0 0.0 2.1 1 1/20 0.0 0.0 0.0 1</td><td>IODA MLO SCR : 22 KAIC CKT BKR PHASE LOAD AMP P/TRIP X A B C 1/20 L 5.4 5.4 1/20 L 5.4 5.4 1/20 L 5.4 5.4 1/20 L S.4 5.4 1/20 L S.4 5.4 1/20 L S.4 S.4 S.4 1/20 L 4.8 4.8 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 L 4.8 0.0 </td><td>IODA MLO SCR : 22 KAIC CKT BKR PHASE LOAD AMP CH P/TRIP X A B C X 1/20 L 5.4 5.4 L L 1/20 L 4.8 4.8 L L 1/20 L 4.8 4.8 L L 1/20 L 4.8 4.8 L L 1/20 L 4.8 6.4 L L 1/20 L 4.8 6.4 L L 1/20 O.0 6.5 L L L 1/20 O.0</td><td>IODA MLO SCR : 22 KAIC N CKT BKR PHASE LOAD AMP CKT BKR P/TRIP X A B C X P/TRIP 1/20 L 5.4 5.4 L 1/20 L 1/20 1/20 L 5.4 5.4 5.4 L 1/20 1/20 L 4.8 4.8 L 1/20 1/20 L 0.0 2.1 L 1/20 1/20 0.0</td><td>IOOA MLO SCR : 22 KAIC NOTES: [N1] CKT BKR PHASE LOAD AMP CKT BKR RECESSED MNTD P/TRIP X A B C X P/TRIP LOAD 1/20 L 5.4 5.4 L 1/20 CORR. 115.121 1/20 L 5.4 5.4 L 1/20 CORR. 130–134 1/20 L 5.4 5.4 L 1/20 RM 127–129 1/20 L 5.4 5.4 L 1/20 RM 131 1/20 L 5.4 5.4 L 1/20 RM 137–139 1/20 L 4.8 4.8 L 1/20 RM 107.108 1/20 L 4.8 4.8 L 1/20 RM 101.102.103 1/20 L 4.8 4.8 L 1/20 RM 101.102.103 1/20 L 4.8 4.8 L 1/20 RM 101.102.103 1/20 L 0.0</td></t<>	IODA MLO CKT BKR PHASE L P/TRIP X A I 1/20 L 5.4 5.4 1/20 L 4.8 4.8 1/20 L 4.8 4.8 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 D 0.0 0.0 1/20 O 0.0 0.0 1/20 O	IOOA MLO SCR : CKT BKR PHASE LOAD AM P/TRIP X A B 1/20 L 5.4 5.4 5.4 1/20 L 4.8 4.8 4.8 1/20 L 4.8 4.8 4.8 1/20 L 4.8 6.4 4.4 1/20 L 0.0 2.1 4.4 1/20 O.0 0.0 2.1 4.4 1/20 O.0 0.0 0.0 1.4 1/20 O.0 0.0 0.0 0.0	100A MLO SCR : 22 KA CKT BKR PHASE LOAD AMP P/TRIP X A B 0 1/20 L 5.4 5.4 1 1/20 L 4.8 4.8 1 1/20 L 4.8 4.8 1 1/20 L 4.8 4.8 1 1/20 L 4.8 6.4 1 1/20 L 4.8 6.4 1 1/20 L 4.8 6.4 1 1/20 0.0 0.0 2.1 1 1/20 0.0 0.0 0.0 1	IODA MLO SCR : 22 KAIC CKT BKR PHASE LOAD AMP P/TRIP X A B C 1/20 L 5.4 5.4 1/20 L 5.4 5.4 1/20 L 5.4 5.4 1/20 L S.4 5.4 1/20 L S.4 5.4 1/20 L S.4 S.4 S.4 1/20 L 4.8 4.8 1/20 L 4.8 6.4 1/20 L 4.8 6.4 1/20 L 4.8 0.0	IODA MLO SCR : 22 KAIC CKT BKR PHASE LOAD AMP CH P/TRIP X A B C X 1/20 L 5.4 5.4 L L 1/20 L 4.8 4.8 L L 1/20 L 4.8 4.8 L L 1/20 L 4.8 4.8 L L 1/20 L 4.8 6.4 L L 1/20 L 4.8 6.4 L L 1/20 O.0 6.5 L L L 1/20 O.0	IODA MLO SCR : 22 KAIC N CKT BKR PHASE LOAD AMP CKT BKR P/TRIP X A B C X P/TRIP 1/20 L 5.4 5.4 L 1/20 L 1/20 1/20 L 5.4 5.4 5.4 L 1/20 1/20 L 4.8 4.8 L 1/20 1/20 L 0.0 2.1 L 1/20 1/20 0.0	IOOA MLO SCR : 22 KAIC NOTES: [N1] CKT BKR PHASE LOAD AMP CKT BKR RECESSED MNTD P/TRIP X A B C X P/TRIP LOAD 1/20 L 5.4 5.4 L 1/20 CORR. 115.121 1/20 L 5.4 5.4 L 1/20 CORR. 130–134 1/20 L 5.4 5.4 L 1/20 RM 127–129 1/20 L 5.4 5.4 L 1/20 RM 131 1/20 L 5.4 5.4 L 1/20 RM 137–139 1/20 L 4.8 4.8 L 1/20 RM 107.108 1/20 L 4.8 4.8 L 1/20 RM 101.102.103 1/20 L 4.8 4.8 L 1/20 RM 101.102.103 1/20 L 4.8 4.8 L 1/20 RM 101.102.103 1/20 L 0.0

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SEAL TIMOTHY W. SMITH PE - 64454 Brame Heck Architects INC. 372 352<u>.</u> 352. 606 Gaii Clay Electric Cooperative, Inc. da Flo Keystone Heights,

 NEW DISTRICT OFFICE

 PROJECT No 18-1166

 10 Citrus Drive
 Keystone Height

 ELECTRICAL FPANEL SCHEDULES DRAWN JSA TWS CHECKED 10/25/18 DATE REVISIONS 11/12/2018

 3720 NW 43rd Street, Suite 106
 FILE
 7163010

 Gainesville, Florida 32606
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 Phone: 352-372-6967 / Fax: 352-372-7232
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 Certificate of Authorization: 00008813
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CONSTRUCTION DOCUMENTS

SHEET NOTES $\langle 1 \rangle$ Hysecurity gate operator (slide gate) WITH SMART TOUCH CONTROLLER, MODEL 8500 SEE SHEET A3.3 (PROVIDE SUBMITTAL), INCLUDE ACCESSORIES (COORDINATE WITH OWNERS): 1. VEHICLE OBSTRUCTION LOOPS (INSIDE, AND OUTSIDE) EDGE SENSORS 2. 3. CARD READER CONTROL (WITH 1.5" CONDUIT PL5-27,29 (X8) TO COMM-ROOM). 4. PHOTO EYE SENSORS GATE WARNING SIGN 5. SLIDE DRIVE CONTROLLER (ON CONCRETE 6. PAD). GATE SUPPORT POSTS BOLLARDS 8. 9. GROUND ROD. CONTROLLED BY PHOTOCELL SEE $\langle 2 \rangle$ EXTERIOR LIGHTING CONTROL DIAGRAM SEE SHEET E1.1. ♥PL5-19,21 GEN OJ SET GENERATOR CONTROLS, BATT. - PL5-1,3,5 ELECTRICAL SITE PLAN Æ **N** SCALE: $1/32^{"} = 1'-0"$

IGHTING FIXTURE SCHEDULE

, 100W LED DOWN-LIGHT	\sum	
-W4OZ		
EE DETAIL THIS SHEET.	\langle	
CHITECTURA-S LED -SW-FINISH-G	\sum	
D FIXTURE		^
10904/A		

с	Brane Heck	606 N.E. First Street FAX 352.372.0425 H Gainesville, Florida 32601 www.brameheck.com
Ē	NEW DISTRICT OFFICE PROJECT No 18-1166	10 Citrus Drive Keystone Heights, Florida
6 6 2 1 3	DRAWN CHECKED DATE 10/ REVISIONS 11/12/20 FILE 716 S H E	JSA TWS 25/18 18 53010 E T

	TELECO	MMUNICATIONS NOTES
THIS LIS	ST IS NOT COMPREHENSIVE. THE SCSC SHALL BE RESPONSIBELE FO	R ANY ADDITIONAL ITEMS NOT SHOWN, TO COMPLETE TELECOMMUNICATIONS TO BICSI STANDARDS.
1. GRO THE BE	DUNDING ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR INSTA RESPONSIBLE FOR BONDING ALL BACKBONES TO CABLE TRAY AND	LLING THE TGB AND CONNECTION TO THE BUILDING GROUND SYSTEM PER BICSI STANDARDS. THE EC SHALL CONDUIT.
2. FIRE THE AFTE	ESTOPPING EC SHALL BE RESPONSIBLE FOR FIRESTOPPING SLEEVE ASSMBLIES ER CABLING IS COMPLETE.	TO OBTAIN A UL LISTING, THE SCSC SHALL BE RESPONSIBLE FOR FIRESTOPPING INSIDE THE RACEWAY
3. RAC THE CON ALL ITEM ELEC	EWAYS EC SHALL BE RESPONSIBLE FOR BACKBONE CONDUIT, HORIZONTAL IDUIT PATHWAYS SHALL INCLUDE ALL DEVICE BOXES, PULL BOXES, CONDUIT ENDS. THE SCSC SHALL BE RESPONSIBLE FOR THE FOLL IS TO SECURE CABLE. THE SCSC SHALL PROVIDE INNERDUCT FOR I CTRONICS SHALL BE OFOI.	CONDUIT, CABLE TRAYS, AND CABLING PATHWAYS, AND ALL WALL PENETRATIONS AND CONDUIT SLEEVES. PULL TAPE, PULL STRINGS, CONDUIT MARKING ETC. PROVIDE GROUNDED AND INSULATED END BUSHINGS ON OWING ITEMS IN TELECOM ROOMS ONLY. RUNWAYS, PERIMETER CABLE TRAY, D-RINGS, CABLE TIES, AND BACKBAONE CONDUIT WHERE CALLED FOR ON DRAWINGS AND SPECS. WAP ENCLOSURES SHALL BE OFCI,
4. COM THE	IMUNICATION CABLING SCSC SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING, TERMIN	IATING, TESTING, AND LABELING ALL COMMUNICATION CABLING.
5. COM THE DEVI	IMUNICATIONS WORK AREA OUTLETS (WAO) E EC SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL ICES, AND FACEPLATES.	CONDUIT AND BACKBOXES ASSOCIATED WITH THE WAO'S. SCSC SHALL PROVIDE ALL CABLING (CAT6), OUTLET
6. BAC THE RES	KBOARDS SCSC SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL BACKBO PONSIBLE FOR ROUGH—IN OF CONDUIT PRIOR TO INSTALLATION OB	IRDS AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO PROVIDE A COMPLETE SYSTEM. THE EC SHALL B BACKBOARDS. ALL POWER CONDUIT SHALL BE INSTALLED CONCEALED BEHIND BACKBOARDS.
	ABBREVIATIONS	ABBREVIATIONS
A AC AFF BLDG C C/L CLG	AMPS ABOVE COUNTER ABOVE FINISHED FLOOR ABOVE FINISHED GRADE BUILDINGS CONDUIT CENTER LINE CEILING	 DATA/TELEPHONE OUTLET. MOUNT ON WALL AT 18" AFF UNLESS SUBSCRIPTED OTHERWISE. SUBSCRIPTS ARE AS FOLLOWS. AC - MOUNT ABOVE COUNTER, COORDINATE WITH CASEWORK. MF - MOUNT IN MODULAR FURNITURE, COORDINATE WITH FURNIT PRIOR TO ROUGH-IN. 84" - MOUNTING HEIGHT AFF. PROVIDE BLOCKING IN STUD WALL ROUGH IN. WAP - INDICATES WIRELESS ACCESS POINT LOCATED ABOVE CEIL
EC EF EGC	COPPER ELECTRICAL CONTRACTOR ENTRANCE FACILITY EQUIPMENT GROUNDING CONDUCTOR	SEE DETAIL WAO MOUNTED IN MILLWORK, SEE DETAIL.
EMGB EX EMT FACP	ELECTRICAL MAIN GROUNDING BUSBAR EXISTING TO REMAIN ELECTRIC METALIC TUBING FIRE ALARM SYSTEM CONTROL PANEL	WAO MOUNTED IN FLOOR BOX FACE UP, SEE DETAIL.
FLR FO GND GEC	FLOOR FIBER OPTIC CABLE GROUND GROUNDING ELECTRODE CONDUCTOR	CABLE TRAY, MINIMUM 12" WIDE, UNO, WELDED WIRE MESH TYPE 4" SIDE RAILS.
JB LIU MCE	INTERNET PORTAL JUNCTION BOX LINE INTERFACE UNIT MAIN COMMUNICATIONS EQUIPMENT ROOM	CONDUIT TERMINATION TO INSULATED BUSHING
M/M MNT NEC NIC	MULTI MODE MOUNTING HEIGHT NATIONAL ELECTRIC CODE NOT IN CONTRACT	
OFOI OFCI RM RGS	OWNER FURNISHED OWNER INSTALLED OWNER FURNISHED CONTRACTOR INSTALLED ROOM RIGID GALV STEEL CONDUIT	
RNC SCSC S/C	RIGID NON METALLIC CONDUIT STRUCTURED CABLING SYSTEMS CONTRACTOR SINGLE MODE FO CABLE	
TBB TR TGB TMGB	TELECOMMUNICATION BONDING BACKBONE TELECOMMUNICATION ROOM TELECOMMUNICATION GROUNDING BUSBAR TELECOMMUNICATION MAIN GROUNDING BUSBAR	
UFR UL UNO WAO	UNDER FLOOR RACEWAY UNDERWRITERS LAB UNLESS NOTED OTHERWISE WORK AREA OUTLET	FIRE RATED
WAP WP	WIRELESS ACCESS POINT WEATHER PROOF	PENETRATION CABLE CABLE TRAY
FIF	RE RATED WALL FIRE RATED PE (STI EZ-PATH)	FIRE RATED WALL CEILING
		CABLE TRAY TERMINATED TO WALL
		FINISHED FLOOR

CABLE TRAY CLEARANCE DETAIL DISTANCE 'A' SHALL BE AT LEAST 6" CLEARANCE AROUND ALL SIDES, TOP AND BOTTOM OF CABLE TRAY.

TELECOM CONDUIT FROM BELOW GRADE DETAIL

THIS LIST IS NOT COMPREHENSIVE. THE SCSC SHALL BE RESPONSIBELE FOR ANY ADDITIONAL ITEMS NOT SHOWN, TO COMPLETE TELECOMMUNICATIONS TO BICSI

THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR INSTALLING THE TGB AND CONNECTION TO THE BUILDING GROUND SYSTEM PER BICSI STANDARDS. THE EC SHALL BE RESPONSIBLE FOR BONDING ALL BACKBONES TO CABLE TRAY AND CONDUIT.

THE EC SHALL BE RESPONSIBLE FOR FIRESTOPPING SLEEVE ASSMBLIES TO OBTAIN A UL LISTING, THE SCSC SHALL BE RESPONSIBLE FOR FIRESTOPPING

THE EC SHALL BE RESPONSIBLE FOR BACKBONE CONDUIT, HORIZONTAL CONDUIT, CABLE TRAYS, AND CABLING PATHWAYS, AND ALL WALL PENETRATIONS AND CONDUIT SLEEVES. CONDUIT PATHWAYS SHALL INCLUDE ALL DEVICE BOXES, PULL BOXES, PULL TAPE, PULL STRINGS, CONDUIT MARKING ETC. PROVIDE GROUNDED AND INSULATED END BUSHINGS ON ALL CONDUIT ENDS. THE SCSC SHALL BE RESPONSIBLE FOR THE FOLLOWING ITEMS IN TELECOM ROOMS ONLY. RUNWAYS, PERIMETER CABLE TRAY, D-RINGS, CABLE TIES, AND ITEMS TO SECURE CABLE. THE SCSC SHALL PROVIDE INNERDUCT FOR BACKBAONE CONDUIT WHERE CALLED FOR ON DRAWINGS AND SPECS. WAP ENCLOSURES SHALL BE OFCI, ELECTRONICS SHALL BE OFOI.

THE SCSC SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING, TERMINATING, TESTING, AND LABELING ALL COMMUNICATION CABLING.

THE EC SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CONDUIT AND BACKBOXES ASSOCIATED WITH THE WAO'S. SCSC SHALL PROVIDE ALL

THE SCSC SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL BACKBOARDS AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO PROVIDE A COMPLETE SYSTEM. THE EC SHALL BE RESPONSIBLE FOR ROUGH-IN OF CONDUIT PRIOR TO INSTALLATION OB BACKBOARDS. ALL POWER CONDUIT SHALL BE INSTALLED

a STUB UPS TO ANTENNAS, COORDINATE LOCATION WITH OWNER

e 1-3"C WITH PULL STRING TO ENTRANCE GATE UNDERGROUND PULL BOX (FOR KEY PAD AND CARD READER), PROVIDE STUB-UP WITH PVC GROUNDED BUSHING. ARCHITECT TO PROVIDE GATE

PROVIDE FIRE PILLOWS FOR CAT-6 CABLE PASSING THRU WALL AND INTO TRAY

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BLDG	BUILDINGS
С	CONDUIT
C/L	CENTER LINE
CLG	CEILING
CU	COPPER
EC	ELECTRICAL CONTRACTOR
EF	ENTRANCE FACILITY
EGC	EQUIPMENT GROUNDING CONDUCTOR
EMGB	ELECTRICAL MAIN GROUNDING BUSBAR
EX	EXISTING TO REMAIN
EMT	ELECTRIC METALIC TUBING
FACP	FIRE ALARM SYSTEM CONTROL PANEL
FLR	FLOOR
FO	FIBER OPTIC CABLE
GND	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
IP	INTERNET PORTAL
JB	JUNCTION BOX
MCE	MAIN COMMUNICATIONS EQUIPMENT ROOM
M/M	MULTI MODE
MNS	MASS NOTIFICATION SYSTEM
MNT	MOUNTING HEIGHT
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
OFOI	OWNER FURNISHED OWNER INSTALLED
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
RM	ROOM
RGS	RIGID GALV STEEL CONDUIT
RNC	RIGID NON METALLIC CONDUIT
SCSC	STRUCTURED CABLING SYSTEMS CONTRACTOR
s/c	SINGLE MODE FO CABLE
TBB	TELECOMMUNICATION BONDING BACKBONE
TR	TELECOMMUNICATION ROOM
TGB	TELECOMMUNICATION GROUNDING BUSBAR
TMGB	TELECOMMUNICATION MAIN GROUNDING BUSBA
UFR	UNDER FLOOR RACEWAY

UNDERWRITERS LAB

WORK AREA OUTLET

WEATHER PROOF

UNLESS NOTED OTHERWISE

WIRELESS ACCESS POINT

UL

UNO

WAO

WAP

WP

ABREVIATIONS

AMPS

ABOVE COUNTER

Α

AC

SEAL

TIMOTHY W. SMITH

PE - 64454

1

PROJECT: 18013

ENGINEERING

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BUSBAR

CONSTRUCTION DOCUMENTS