

ELECTRICAL PLAN NOTES:

MATERIALS AND INSTALLATIONS, AS A MINIMUM, SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, THE LATEST EDITION OF NFPA, AND THE LATEST EDITION OF THE LOCAL CODES AND ORDINANCES, INCLUDING ALL AMENDMENTS. EQUIPMENT SHALL BE LISTED WITH THE UNDERWRITERS LABORATORIES, INC. QUALITY AND WORKMANSHIP ESTABLISHED BY DRAWINGS AND SPECIFICATIONS ARE NOT TO BE REDUCED BY THE ABOVE MENTIONED CODES.

BIDDERS SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF WORK. THE SUBMISSION OF A BID SHALL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE, WILL NOT BE ALLOWED.

ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST-CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERABLE AND ACCEPTANCE OF THIS SYSTEM BY THE CONTRACTING OFFICER SHALL BE A CONDITION OF THE CONTRACT.

ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.

CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE.

CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE, AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.

ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OF PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES INSPECTIONS AND TESTINGS.

ALL WIRING SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED. MINIMUM WIRE SIZE SHALL BE #12 AWG, EXCLUDING CONTROL WIRING. ALL CONDUCTORS SHALL BE COPPER WITH THWN/THHN INSULATION. CONDUCTORS #10 AND SMALLER SHALL BE SOLID. CONDUCTORS #8 AND LARGER SHALL BE STRANDED.

OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS, AND OF SPECIAL CONSTRUCTION FOR OTHER CLASSIFIED AREAS. ALL BOXES SHALL BE RECESSED (FLUSH) IN WALLS OR CEILINGS WHENEVER POSSIBLE.

DISCONNECT SWITCHES SHALL BE HP RATED, GENERAL DUTY, QUICK-MAKE, QUICK-BREAK TYPE. ENCLOSURES SHALL BE AS REQUIRED BY NEC AND LOCATION. ENGRAVED LAMINATED PLASTIC IDENTIFICATION PLATES SHALL BE FURNISHED AND INSTALLED ON ALL DISCONNECT SWITCHES, CONTACTORS, AND STARTERS.

ALL FUSES FOR SAFETY SWITCHES SHALL BE DUAL ELEMENT, CARTRIDGE TYPE. FUSES SHALL BE MANUFACTURED BY BUSSMANN. THE CONTRACTOR SHALL FURNISH TO THE OWNER ONE SPARE FUSE FOR EACH SIZE AND TYPE OF FUSE INSTALLED. FUSES 600 AMPS AND ABOVE SHALL BE CLASS L.

ALL GENERAL PURPOSE SWITCHES AND RECEPTACLES SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. CATALOG NUMBERS LISTED ARE LEVITON. HOWEVER, COMPARABLE DEVICES BY PASS & SEYMOUR, BRYANT, OR ARROW HART WILL BE ACCEPTED. COLOR OF DEVICES AND PLATES SHALL BE DICTATED BY ARCHITECT/OWNER. VERIFY BEFORE INSTALLATION.

A. SWITCHES: LEVITON #CSB1-20-COLOR
 B. RECEPTACLES: LEVITON #BR20-COLOR
 C. COVER PLATES: SMOOTH PLASTIC WITH MATCHING COLOR
 NOTE: ALL OTHER REQUIRED DEVICES SHALL MATCH IN COLOR AND STYLE.

IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM, AND PROVIDE ALL NECESSARY DEVICES AND COMPONENTS FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.

A SEPARATE, GREEN TYPE, THW COPPER GROUND CONDUCTOR SHALL BE RUN FROM GROUND LUG OF EACH GROUNDING RECEPTACLE TO AN APPROVED CONNECTION INSIDE THE ENCLOSING STEEL. OUTLET BOX, DEVICE MOUNTING SCREWS SHALL NOT BE CONSIDERED AN APPROVED GROUND.

A SEPARATE GROUND CONDUCTOR SHALL BE INSTALLED IN EVERY CONDUIT AND RACEWAY AND SECURELY BONDED IN AN APPROVED GROUNDING TERMINAL AT BOTH ENDS OF THE RUN. THE GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH TABLE 250-95 OF THE NEC. CONTRACTOR SHALL SIZE CONDUIT TO ACCOMMODATE ADDITIONAL CONDUCTOR.

LOAD DATA IS BASED ON INFORMATION GIVEN TO THE ENGINEER AT THE TIME OF DESIGN. VERIFY ALL EQUIPMENT NAMEPLATE RATINGS BEFORE ORDERING MATERIALS AND ROUGH IN.

CIRCUITS SHOWN ON PLANS INDICATE LOAD DATA AND PANEL SIZES. CONTRACTOR SHALL PROVIDE CIRCUITS AND ROUTING OF CONDUITS TO SUIT JOB CONDITIONS.

FURNISH AND INSTALL DISCONNECT SAFETY SWITCHES, WIRING, AND CONNECTIONS ON ALL MECHANICAL AND PLUMBING EQUIPMENT. VERIFY AND COORDINATE WITH MECHANICAL CONTRACTOR REGARDING SUPPLY AND INSTALLATION OF ALL REQUIRED CONTROLS.

THE DISCONNECT SWITCH, FUSE SIZES, CIRCUIT BREAKERS, CONDUIT AND WIRE SHOWN FOR ALL EQUIPMENT ARE SIZED PER THE MANUFACTURER, AND MODEL LISTED ON THE MECHANICAL PLANS. IF THERE IS AN EQUAL MANUFACTURER, OR OTHER MANUFACTURER PROVIDED, THE MECHANICAL/GENERAL CONTRACTOR SHALL BEAR ANY ADDITIONAL COST INCURRED IF THE ELECTRIC IS NOT EQUAL TO SPECIFICATIONS.

A TYPEWRITTEN CIRCUIT INDEX SHALL BE AFFIXED TO THE INSIDE SURFACE OF EACH PANELBOARD DOOR, CLEARLY INDICATING AREA AND TYPE OF LOAD SERVED BY EACH BRANCH CIRCUIT PROTECTIVE DEVICE, INCLUDING SPARES. HAND PRINTED WILL NOT BE ACCEPTED.

ENGRAVED, LAMINATED PLASTIC IDENTIFICATION PLATES SHALL BE FURNISHED AND INSTALLED ON ALL PANELS AND SWITCHGEAR. PLATES SHALL BE AFFIXED TO FRONT OF PANELS, INDICATING PANEL NAME, VOLTAGE AND AMPERAGE.

ALL ELECTRICAL CONDUCTORS SHALL BE INSTALLED IN AN APPROVED RACEWAY: EMT, IMC, OR RIGID GALVANIZED CONDUIT. MAXIMUM NUMBER OF 120V CIRCUITS ALLOWED IN A COMMON CONDUIT SHALL BE SIX (6). THE CONTRACTOR SHALL STRICTLY CONFORM TO THE NEC REQUIREMENTS OF DERATING FOR CONDUCTOR AMPACITY AND CONDUIT FILL. CONDUITS SHALL NOT BE INSTALLED EXPOSED ON ROOF.

CONDUCTORS SHALL BE COLOR CODED ACCORDING TO NEC.

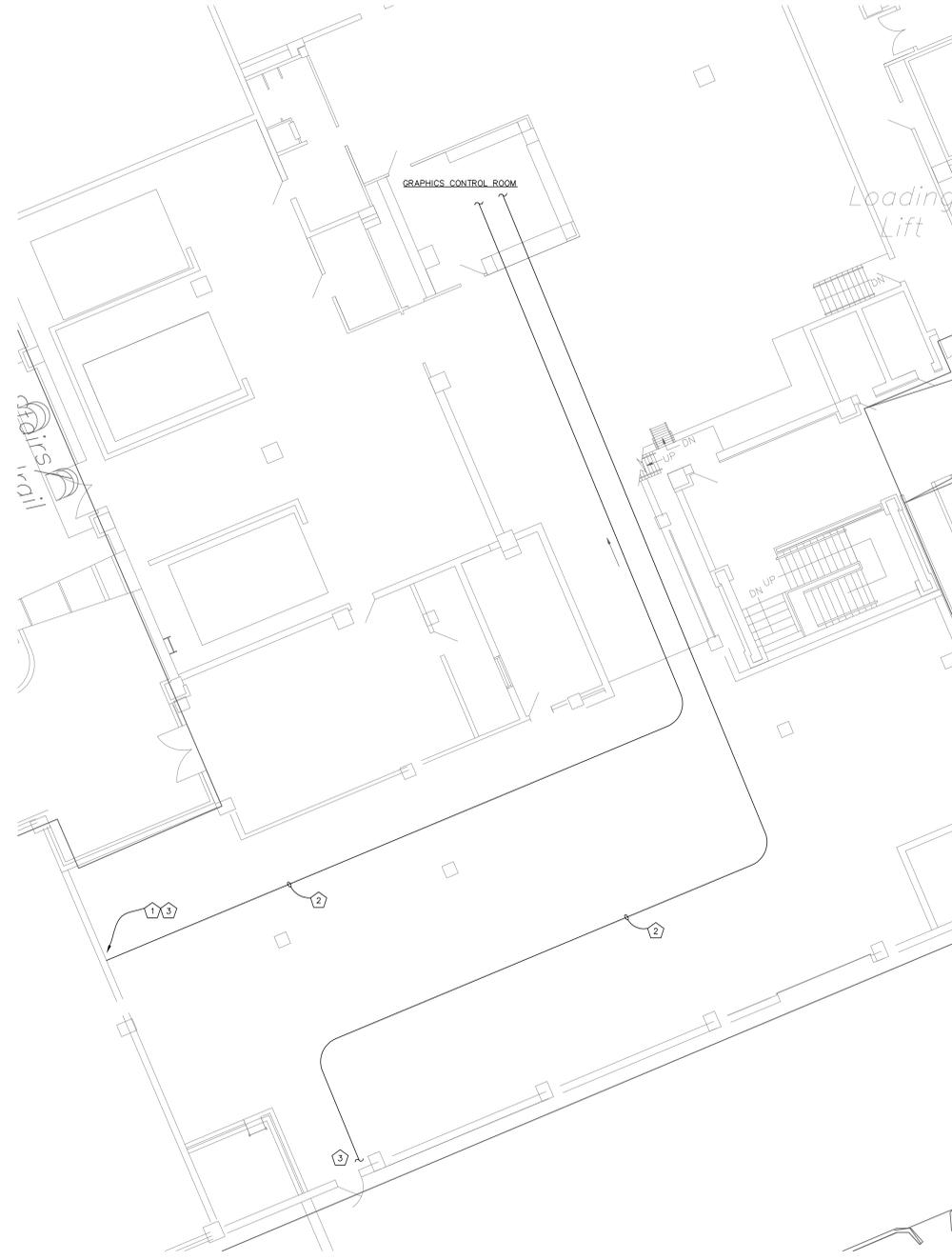
CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING ALL CONDUIT PENETRATIONS MADE THROUGH FIRE RATED WALLS, CEILINGS, SLABS, ETC. PENETRATION SEALS SHALL BE ACCORDING TO UL ASSEMBLY STANDARDS.

CONTRACTOR SHALL PROVIDE SHOP DRAWING SUBMITTALS FOR LIGHT FIXTURES, WIRING DEVICES, POWER DISTRIBUTION AND ALL SYSTEMS.

CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF CONTRACT DRAWINGS AT JOB SITE WITH COLORED MARKINGS INDICATING PROGRESS OF WORK. THIS SET OF CONTRACT DRAWINGS SHALL BE SEPARATE FROM AND IN ADDITION TO CONTRACTOR'S CONSTRUCTION SET. EVERY UNIT OF EQUIPMENT, DEVICE, CONDUIT AND WIRE SHALL BE MARKED WHEN INSTALLED. USE GREEN TO INDICATE INSTALLATION AS SHOWN ON DRAWINGS AND USE RED TO INDICATE FIELD CHANGES. UPON COMPLETION OF WORK, THIS SET OF CONTRACT DRAWINGS SHALL BE TURNED OVER TO THE AE AND BECOME PROPERTY OF THE VA.

THE OWNER RESERVES THE RIGHT TO REVISE THE DRAWINGS FROM TIME TO TIME TO INDICATE CHANGES IN THE WORK. WHEN REVISED DRAWINGS AND/OR ANY REVISIONS ARE ISSUED, THE CONTRACTOR SHALL EVALUATE THE CHANGES PROMPTLY BEFORE INSTALLATION OF ANY ITEM OF PERFORMANCE. THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER IN WRITING THAT THE REVISED DRAWINGS INVOLVE AN ADDITION OR DEDUCTION OF SPECIFIC AMOUNT OF VALUE TO THE CONTRACT PRICE. THE CONTRACTOR SHALL NOT PROCEED WITH THE REVISED WORK WITHOUT PRIOR WRITTEN APPROVAL FROM THE CONTRACTING OFFICER.

IF THE ELECTRICAL CONTRACTOR HAS QUESTIONS, OR IN THEIR OPINION FINDS OMISSIONS OR ERRORS ON ELECTRICAL DOCUMENTS, IT IS THEIR RESPONSIBILITY TO BRING THIS TO THE ATTENTION OF THE COR IMMEDIATELY. IF ELECTRICAL CONTRACTOR PROCEEDS WITH ANY CHANGES TO THE CONTRACT DOCUMENTS WITHOUT WRITTEN PRIOR APPROVAL FROM THE CONTRACTING OFFICER, ADDITIONAL COMPENSATION SHALL NOT BE ALLOWED.

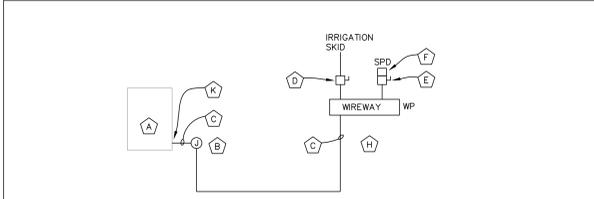


IRRIGATION ELECTRICAL PLAN
 SCALE: 1/8" = 1'-0"

BASE BID:
 PROVIDE NEW 3/4" CONDUIT FROM NEW HANDHOLE. CUT AND PATCH DRIVE TO CONCEAL CONDUIT FROM HANDHOLE TO PHYSICAL PLANT.

DEDUCTIVE ALTERNATE BID:
 RE-USE OF EXISTING SPARE CAT 5 CABLE AND OTHER TWISTED PAIR FROM SIEMENS PANEL IN PUMP ROOM TO SIEMENS PANEL IN PHYSICAL PLANT. EXTEND CONDUIT AND WIRE AS REQUIRED TO CONNECT TO IRRIGATION SKID AND TO GRAPHICS CONTROL ROOM FOR IRRIGATION SYSTEM MONITORING AND CONTROL.

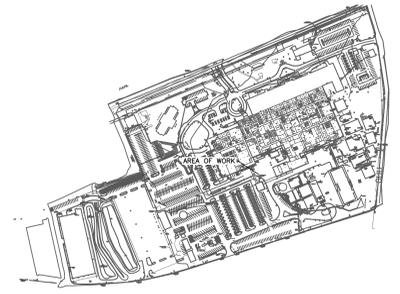
- KEYED NOTES:**
- 1 EXISTING CONDUIT AND CABLES FROM PUMP ROOM SIEMENS PANEL TO PHYSICAL PLANT SIEMENS PANEL
 - 2 PROVIDE 1-CAT 5 IN 3/4" CONDUIT.
 - 3 PROVIDE TVSS FOR CAT 5 TERMINATIONS FOR CABLE ENTERING PHYSICAL PLANT.



PARTIAL RISER DIAGRAM
 NOT TO SCALE

- RISER NOTES:**
- A EXISTING 480/277 VOLT, 400 AMP MCB, SQUARE D I-LINE PANEL.
 - B CONDUIT BODY LOCATED LOW ON WALL.
 - C 60 AMP FEEDER - PROVIDE 4 #6 THWN CU AND 1 #10 THWN CU IN 1" CONDUIT.
 - D NEMA 4X DISCONNECT SWITCH WITH 50 AMP RK1 FUSES.
 - E NEMA 4X DISCONNECT SWITCH WITH 30 AMP RK1 FUSES.
 - F SURGE PROTECTIVE DEVICE CKLB SERIES BY SURGE SUPPRESSION INC. IN A WEATHERPROOF ENCLOSURE.
 - G PROVIDE 2 8" X 8" CONCRETE PEDESTALS. PROVIDE STAINLESS STEEL SLOTTED CHANNEL (3 ROWS MINIMUM) TO PROVIDE STRUCTURE FOR MOUNTING WEATHERPROOF WIREWAY, DISCONNECT SWITCHES, TVSS. LEAVE ADEQUATE SPACE FOR FUTURE RECEPTACLE.
 - H PROVIDE 3P/60 AMP SQUARE D TYPE HG CIRCUIT BREAKER.

ELECTRICAL LEGEND	
	FUSIBLE DISCONNECT SWITCH (SIZE INDICATED ON PLAN)
	JUNCTION BOX
	HOMERUN, PANELBOARD CIRCUIT DESIGNATION
	WEATHER PROOF, NEMA 3R



KEY PLAN
 N.T.S.

FINAL DESIGN - APPROVED FOR CONSTRUCTION

<p>CONSULTANTS:</p> <p>Aqua Engineering Inc. Innovative Water Solutions 375 E. Horsetooth Road, Building 2-202 Fort Collins, CO 80525-3196 970.229.9668 office 970.229.9655 fax www.aquaengineering.com</p>			<p>ARCHITECT/ENGINEERS:</p> <p>TOLMAN ENGINEERING, FL 510 FARMINGHAM COURT OVIEDO, FL 32765 PHONE: (321) 765-4463 FAX: (321) 765-4463</p>	<p>Drawing Title IRRIGATION ELECTRICAL PLAN</p> <p>Approved: Project Director</p>	<p>Project Title RENOVATE IRRIGATION SYSTEM</p> <p>Location MALCOM RANDALL VAMC 1801 SW ARCHER ROAD, GAINESVILLE, FL 32608</p> <p>Date 02-07-2014</p>	<p>Project Number 573-13-604</p> <p>Building Number -</p> <p>Drawing Number EP101</p>	<p>Office of Construction and Facilities Management</p>
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