

PRIMARY CONDUCTORS BY UTILITY INSTALLED IN 3" SCHED 40 PVC DUCT BY CONTRACTOR PER THE SERVING ELECTRIC UTILITY CO. REQUIREMENTS.

UTILITY TRANSFORMER WITH 120/240 VAC, 1PH, 3W SECONDARY

4" GRSC (BY CONTRACTOR) INCLUDE 4" GRSC SPARE BETWEEN TRANSFORMER & METER BASE. ELECTRIC UTILITY WILL FURNISH & INSTALL SERVICE CONDUCTORS FROM TRANSFORMER TO METER BASE.

UTILITY METER BASE PER SERVING ELECTRIC UTILITY CO. REQUIREMENTS. LOCATE AT VAULT BLDG EXTERIOR

2-600 MCM XHHW, 1-600 MCM NEUTRAL, 1 #1/0 GND IN 4" GRSC

#1/0 BARE STRANDED COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 40 PVC FROM SERVICE PANEL TO GROUND RING.

#1/0 BARE STR. CU. (TYP.)

GROUND RING SHALL BE INSTALLED 2'-0" BEYOND THE PERIMETER OF THE VAULT BLDG. DIMENSIONS SHOWN ARE FOR A NOMINAL 10'W x 20'L BLDG.

10'L x 3/4" DIA UL LISTED COPPER CLAD GND ROD TYP. FOR 4. GND RING SHALL BE BURIED 30" MIN. BELOW FINISHED GRADE. CONNECTIONS TO GND RODS AND GND RING SHALL BE EXOTHERMIC WELD, CADWELD OR THERMOWELD.

2 #1/0 THWN, 1 #1/0 NEUTRAL, 1 #4 GND IN 2" GRSC

2 #10 THWN, 1 #10 GND IN LOW VOLTAGE WIREWAY & CONDUIT

1 #10 THWN, 1 #10 NEUTRAL, 1 #10 GND IN LOW VOLTAGE WIREWAY & CONDUIT. PROVIDE LTFMC AT FINAL CONNECTION TO TRANSFORMER.

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500 VA, 120 VAC TO 144 VAC BOOST TRANSFORMER SEE SHEET 49 FOR WIRING DETAIL.

500 VA, 120 VAC TO 132 VAC BOOST TRANSFORMER SEE SHEET 49 FOR WIRING DETAIL.

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SPLICE #6 AWG TO #8 AWG IN PANELBOARD ENCLOSURE AS NECESSARY TO FIT CIRCUIT BREAKER TERMINALS

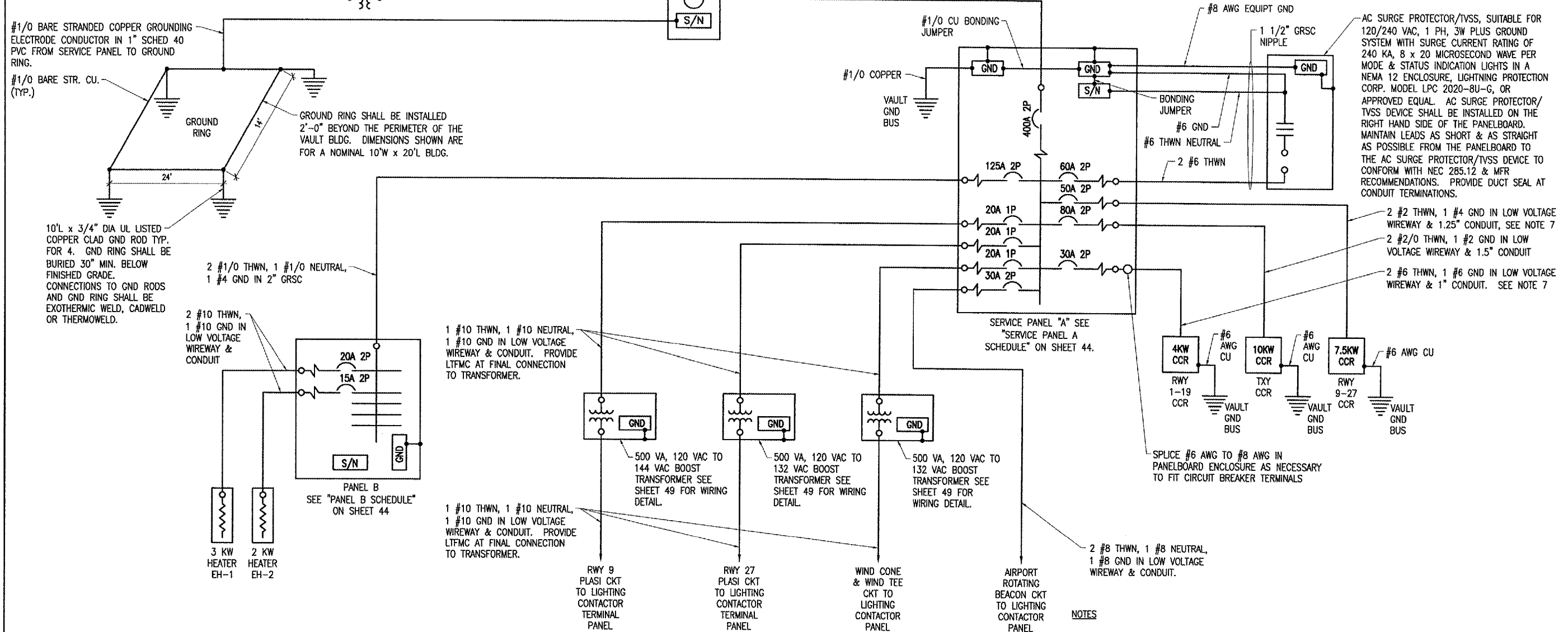
2 #8 THWN, 1 #8 NEUTRAL, 1 #8 GND IN LOW VOLTAGE WIREWAY & CONDUIT.

AC SURGE PROTECTOR/TVSS, SUITABLE FOR 120/240 VAC, 1 PH, 3W PLUS GROUND SYSTEM WITH SURGE CURRENT RATING OF 240 KA, 8 x 20 MICROSECOND WAVE PER MODE & STATUS INDICATION LIGHTS IN A NEMA 12 ENCLOSURE, LIGHTNING PROTECTION CORP. MODEL LPC 2020-8U-G, OR APPROVED EQUAL. AC SURGE PROTECTOR/TVSS DEVICE SHALL BE INSTALLED ON THE RIGHT HAND SIDE OF THE PANELBOARD. MAINTAIN LEADS AS SHORT & AS STRAIGHT AS POSSIBLE FROM THE PANELBOARD TO THE AC SURGE PROTECTOR/TVSS DEVICE TO CONFORM WITH NEC 285.12 & MFR RECOMMENDATIONS. PROVIDE DUCT SEAL AT CONDUIT TERMINATIONS.

2 #2 THWN, 1 #4 GND IN LOW VOLTAGE WIREWAY & 1.25" CONDUIT, SEE NOTE 7

2 #2/0 THWN, 1 #2 GND IN LOW VOLTAGE WIREWAY & 1.5" CONDUIT

2 #6 THWN, 1 #6 GND IN LOW VOLTAGE WIREWAY & 1" CONDUIT. SEE NOTE 7



NOTES

1. ALL VAULT WORK, AIRFIELD WORK, AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT MANAGER.
2. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (NEC MOST CURRENT ISSUE IN FORCE), THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
3. ALL EQUIPMENT SHOWN IS NEW UNLESS NOTED OTHERWISE.
4. COORDINATE ELECTRIC SERVICE WORK WITH THE SERVING ELECTRIC UTILITY COMPANY:
AMEREN IP
ATTN, MS. KATHY CROWELL
1824 KNOX HIGHWAY 9
GALESBURG, IL 61401
PHONE: 309-852-2963
FAX: 309-852-2946
CELL PHONE: 309-368-6684
5. CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH CONSTANT CURRENT REGULATOR AND ADJUST CIRCUIT BREAKER, WIRE SIZES & CONDUIT SIZES TO CONFORM WITH NEC & MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN ON THE PLANS ARE MINIMUM.
6. SEE PANELBOARD SCHEDULES FOR ADDITIONAL REQUIREMENTS FOR EACH RESPECTIVE PANEL.
7. BRANCH CIRCUITS TO REGULATORS SHALL BE INSTALLED IN THE RESPECTIVE LOW VOLTAGE WIREWAY/DUCT, WITH GRSC AT TRANSITIONS AND UL LISTED LIQUID TIGHT FLEXIBLE METAL CONDUIT AT FINAL CONNECTIONS TO THE REGULATORS. CONDUITS SHALL BE SIZED IN ACCORDANCE WITH NEC.
8. BOND ALL REGULATORS TO THE RESPECTIVE VAULT GROUND BUS WITH A DEDICATED #6 AWG BONDING JUMPER FOR EACH REGULATOR.
9. LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING.

HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY

FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH METER SOCKET, PANELBOARD, LOAD CENTER, DISCONNECT & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION".

NEW VAULT ELECTRICAL ONE-LINE DIAGRAM

BY	
REVISION	
DATE	

Kewanee Municipal Airport, Illinois

A.I.P. PROJ.: 3-17-0059-B10

Project No.	810-061X1D-0800
Filename	E-606.DWG
Scale	1"=30'
Date	04/22/05
LAYOUT	KNL 09/23/05
DRAWN	MV 09/23/05
REVIEWED	LDP 01/17/06

Hanson Professional Services Inc.
3125 Dandy Trail, Suite 100
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Offices Nationwide

OVERLAY TXY & APRON CONSTRUCT VAULT
PROPOSED VAULT ELECTRICAL ONE-LINE DIAGRAM SHEET 1