LETTING ITEM NO. 05A
NOVEMBER 8, 2024 IDOT LETTING

AU074
TOTAL SHEETS: 13

CITY OF AURORA
AURORA, ILLINOIS

CONSTRUCTION PLANS
FOR
AURORA MUNICIPAL AIRPORT

REHABILITATE AIRFIELD LIGHTING VAULT AND REPLACE VAULT GENERATOR

ILLINOIS PROJECT: ARR-4915
S.B.G. PROJECT: 3-17-SBGP-184

SEPTEMBER 13, 2024

FINAL SUBMITTAL

SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	RECORD QUANTITY
AR109311	7.5 KW REGULATOR, STYLE 1	EACH	2	
AR109331	15 KW REGULATOR, STYLE 1	EACH	1	
AR109341	20 KW REGULATOR, STYLE 1	EACH	1	
AR109361	30 KW REGULATOR, STYLE 1	EACH	4	
AR109362	30 KW REGULATOR, STYLE 2	EACH	4	
AR109903	REMOVE REGULATOR	EACH	16	
AR109908	REMOVE GENERATOR	L SUM	1	
AR150510	ENGINEER'S FIELD OFFICE	L SUM	1	
AR150520	MOBILIZATION	L SUM	1	
AR109210	VAULT MODIFICATIONS	L SUM	1	
AR109810	GENERATOR	EACH	1	
AR800192	INSTALL L-890 ALCMS	L SUM	1	

INDEX TO SHEETS

811 Know what's **below.** **Call** before you dig.

J.U.L.I.E.
JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS
www.illinois1call.com

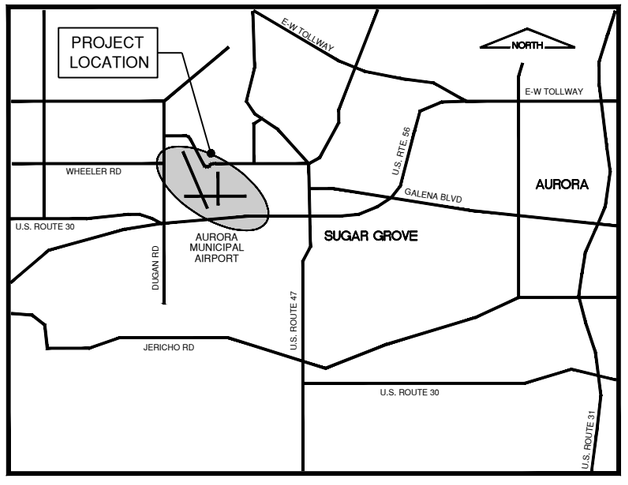
THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ACTUAL LOCATIONS OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES OF HIS OPERATIONAL PLANS, OBTAIN FROM RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION AND THE ONE-CALL NOTICE SYSTEM. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH UTILITY OR SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E BEFORE EXCAVATING
AT 811

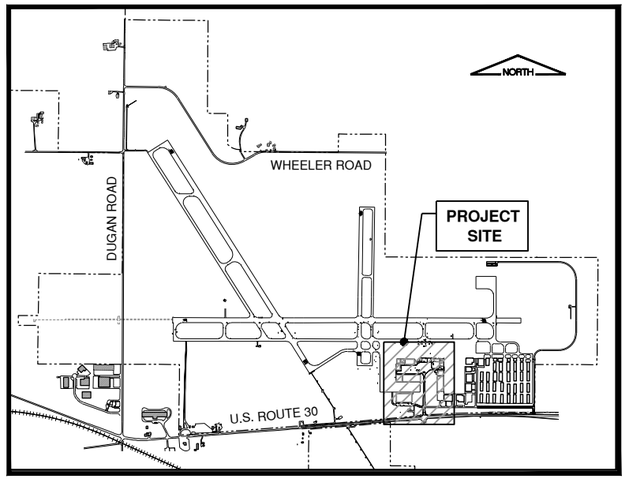
AURORA MUNICIPAL AIRPORT

SECTION: 17 AND 18
RANGE: 7 EAST
TOWNSHIP: 38 NORTH

COUNTY: KANE
U.S. ROUTE 30
SUGAR GROVE TOWNSHIP



LOCATION MAP



SITE PLAN

ASAD M. BAJWA
062-055662
LICENSED PROFESSIONAL ENGINEER
ILLINOIS
EXP: 11/30/2025
September 13 2024

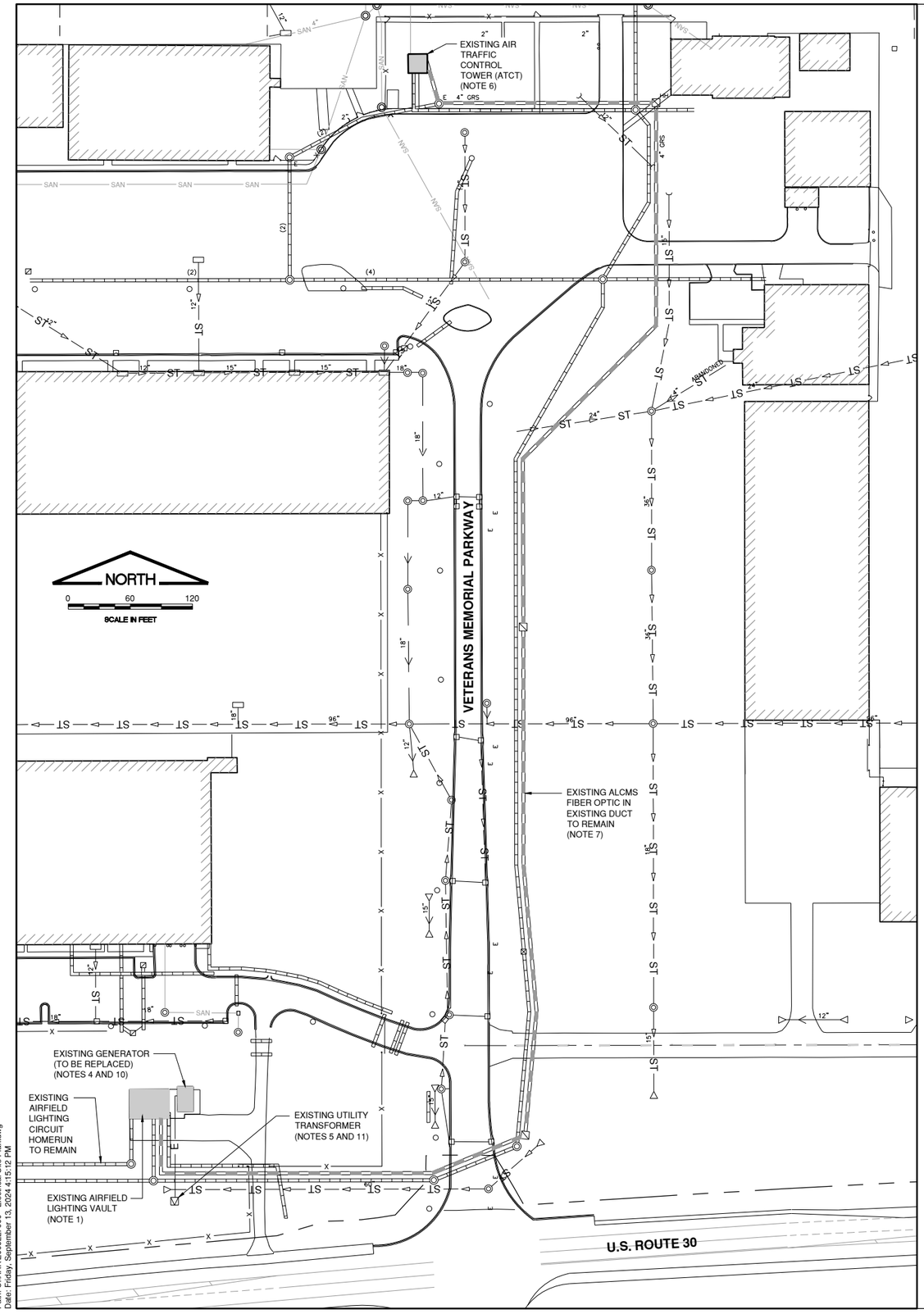
AURORA ILLINOIS CITY OF LIGHTS
AURORA MUNICIPAL AIRPORT

APPROVED BY _____ MAYOR
RICHARD C. IRVIN
DATE Sept. 16 20 24

APPROVED BY Stephen K. Andras AIRPORT MANAGER
STEPHEN K. ANDRAS, P.E.
DATE Sept. 13 2024

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
20092270-00

SUBMITTED BY _____
ASAD BAJWA, P.E.
DATE September 13, 2025



LEGEND

- EXISTING DUCT BANK
- EXISTING DUCT BANK FOR ALCMS FIBER OPTIC CABLE
- EXISTING HANDHOLE
- EXISTING MANHOLE
- EXISTING UTILITY TRANSFORMER
- EXISTING UNDERGROUND ELECTRIC
- EXISTING FENCE
- EXISTING STORM SEWER

NOTES

1. REFER TO AIRFIELD LIGHTING VAULT PLANS AND DETAILS FOR VAULT MODIFICATIONS.
2. ALL EXISTING CABLES AND EQUIPMENT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE. THE ELECTRICAL INSTALLATION AS A MINIMUM SHALL MEET NEC AND LOCAL ELECTRICAL CODES.
3. WHEN REMOVING EXISTING AUTOMATIC TRANSFER SWITCH AND GENERATOR EXISTING CONDUIT SHALL BE PROTECTED. REUSE EXISTING CONDUIT WHEN INSTALLING NEW AUTOMATIC TRANSFER SWITCH AND GENERATOR.
4. EXISTING 400KVA/500KVA STAND-BY NATURAL GAS GENERATOR, ATS AND ENCLOSURE SHALL BE REMOVED COMPLETELY AND NEW GENERATOR WITH ENCLOSURE AND ATS SHALL BE INSTALLED ON EXISTING CONCRETE PAD.
5. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR REMOVAL OF EXISTING SECONDARY CONDUCTORS AND TERMINATION OF NEW CONDUCTORS.
6. REPLACE EXISTING ALCMS AND ALCMS COMPONENTS IN ATCT COORDINATE ALL WORK WITH FAA.
7. EXISTING ALCMS TO REMAIN OPERATIONAL UNTIL NEW ALCMS IS INSTALLED, TESTED AND COMMISSIONED. CONNECT EXISTING SPARE FIBER OPTIC TO KEEP EXISTING AND NEW ALCMS OPERATIONAL SIMULTANEOUSLY.
8. SEE SHEET 5 FOR ALCMS WORK PREFORMED INSIDE ELECTRICAL VAULT.
9. SEE SHEET 12 FOR ALCMS WORK PREFORMED INSIDE AIR TRAFFIC CONTROL TOWER.
10. NEW GENERATOR AND GENERATOR ENCLOSURE IS SHOWN BASED ON "BASIS OF DESIGN" TO FIT ON EXISTING CONCRETE PAD ALIGN WITH EXISTING NATURAL GAS SERVICE AND UNDERGROUND CONDUITS. CONTRACTOR TO COORDINATE WITH SELECTED GENERATOR MANUFACTURER OR MODIFY EXISTING CONCRETE PAD. CONDUIT STUBS AND NATURAL GAS AT NO ADDITIONAL COST TO THE CONTRACT.
11. PROVIDE TEMPORARY GENERATOR TO KEEP ALL EXISTING AIRFIELD LIGHTING AND NAVAIDS CIRCUITS ENERGIZED AND OPERATIONAL DURING CONSTRUCTION.

CMT

CONSULTANTS

FINAL SUBMITTAL

REHABILITATE AIRFIELD LIGHTING VAULT AND REPLACE VAULT GENERATOR

SEPTEMBER 13, 2024

OWNER

AURORA ILLINOIS CITY OF LIGHTS

AURORA MUNICIPAL AIRPORT

AURORA MUNICIPAL AIRPORT

MARK	DATE	DESCRIPTION

IL PROJECT NO:	ARR4915
CMT PROJECT NO:	20092270-00
CAD DWG FILE: 2009227000 - ELECTRICAL SITE PLAN.DWG	
DESIGNED BY:	ARM
DRAWN BY:	ARM
CHECKED BY:	DKP
APPROVED BY:	ARM
COPYRIGHT:	

SHEET TITLE

ELECTRICAL SITE PLAN

SHEET 2 OF 13

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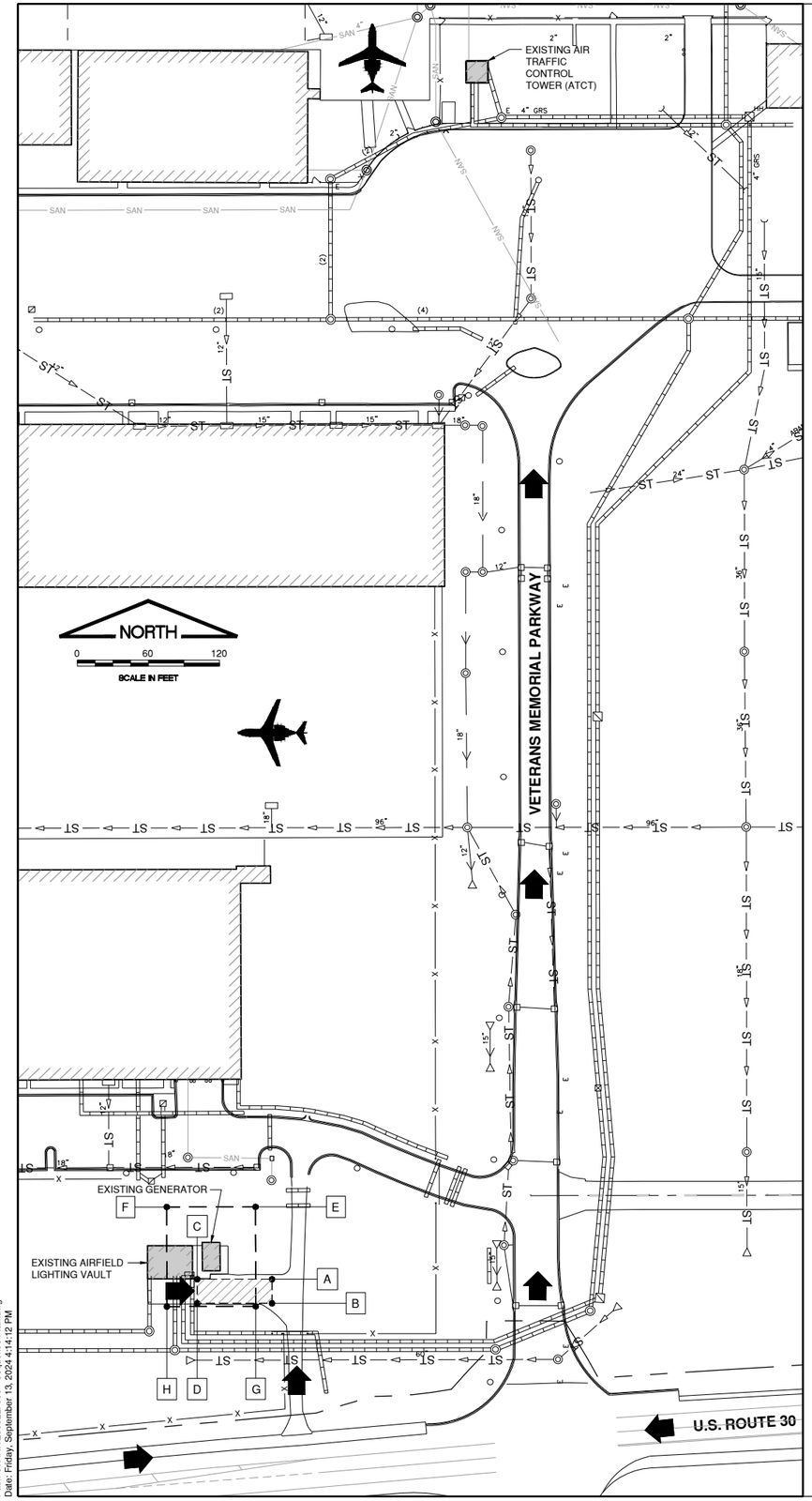

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GENERAL NOTES

1. THE SUGGESTED SEQUENCE OF CONSTRUCTION SHOWN IS INTENDED TO ALLOW FOR THE ORDERLY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS WHILE MAINTAINING VEHICLE ACCESS AT ALL TIMES. THE PHASING SHOWN IS A SUGGESTED SEQUENCE OF CONSTRUCTION ONLY. THIS SEQUENCE MAY BE MODIFIED HOWEVER, ALTERNATE STAGING PLANS MUST MAINTAIN AIRPORT OPERATIONS TO THE SATISFACTION OF THE AIRPORT MANAGER AND RESIDENT ENGINEER AND BE APPROVED BY IDOT AERONAUTICS AND FEDERAL AVIATION ADMINISTRATION.
2. ALL OPERATIONS SHALL BE IN CONFORMANCE WITH AC 150/5370 (LATEST EDITION) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
3. CONTRACTOR'S EQUIPMENT SHALL BE STORED IN THE EQUIPMENT AND MATERIAL STORAGE/STAGING AREA WHEN CONSTRUCTION IS NOT IN PROGRESS. NO EXCEPTIONS FOR SLOW MOVING EQUIPMENT SHALL BE ALLOWED.
4. THE AIRPORT MANAGER SHALL HAVE FINAL SAY IN THE APPROVAL OF THE CONSTRUCTION OPERATING PHASING AND SEQUENCE AS IT RELATES TO PEDESTRIAN AND VEHICULAR SAFETY.
5. ALL EXISTING PAVEMENTS, DRIVES OR ANY OTHER AREAS USED AS A HAUL ROAD OR STORAGE AREA BY THE CONTRACTOR SHALL BE RESTORED IN KIND TO THEIR PRE-CONSTRUCTION CONDITION OR TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT MANAGER. THE COST OF MAINTAINING, REPAIRING OR CONSTRUCTING THESE PAVEMENTS AND AREAS SHALL BE INCIDENTAL TO THE CONTRACT. EXISTING AREAS OUTSIDE THE PROJECT LIMITS WHICH ARE DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY HIM AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND THE AIRPORT MANAGER.
6. THE CONTRACTOR SHALL KEEP ALL TRUCKS, EQUIPMENT AND MATERIALS OFF OF THE TENANT PARKING LOTS AND DRIVEWAYS OUTSIDE OF THE PROJECT LIMITS EXCEPT AS SHOWN OR WITH THE PRIOR PERMISSION OF THE ENGINEER AND AIRPORT.
7. WORK PERFORMED BY THE CONTRACTOR OUTSIDE OF DAYLIGHT HOURS SHALL BE DONE UNDER SUFFICIENT ARTIFICIAL LIGHTING TO ALLOW FOR PROPER CONSTRUCTION METHODS AND INSPECTIONS. LIGHT SHALL CONSIST OF MOVABLE POLE MOUNTED FLOODLIGHTS AND/OR SPOTLIGHTS OF SUFFICIENT NUMBER TO ILLUMINATE THE WORK AREA. VEHICLE HEADLIGHTS WILL BE ALLOWED ONLY IN ADDITION TO OTHER LIGHTS MENTIONED ABOVE. LIGHTING SHALL BE AS APPROVED BY THE ENGINEER AND SHALL NOT BE USED IF THEY AFFECT FLIGHT SAFETY. CONTRACTOR'S WORK HOURS SHALL BE IN ACCORDANCE WITH LOCAL ORDINANCES.
8. THE CONTRACTOR WILL BE REQUIRED TO HAVE A SWEEPER AVAILABLE FOR USE AT ALL TIMES. MATERIAL TRACKED ON TO THE PAVEMENT SHALL BE CONTINUALLY REMOVED WITH SAID SWEEPER. THIS SWEEPING SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
9. MATERIALS REMOVED FROM THE PROJECT WILL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF AIRPORT PROPERTY, UNLESS NOTED OTHERWISE.
10. PAYMENT FOR TRAFFIC CONTROL INCLUDING, BUT NOT LIMITED TO BARRICADES, CONSTRUCTION FENCE, SIGNING, , ETC. SHALL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. BARRICADES SHALL HAVE FLASHING RED LIGHT(S) AND CONFORM TO IDOT STANDARD 701901-02, TYPE II. SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
11. THE CONTRACTOR SHALL CONTACT THE AIRPORT MANAGER THROUGH THE RESIDENT ENGINEER TEN (10) WORKING DAYS IN ADVANCE OF THE START OF CONSTRUCTION SO THAT THE APPROPRIATE NOTAMS MAY BE ISSUED.
12. IN THE CASE OF AN EMERGENCY, CONTRACTOR SHALL NOTIFY AIRPORT MANAGER AND THE RESIDENT ENGINEER IMMEDIATELY.
13. DURING ADVERSE WEATHER, THE CONTRACTOR SHALL MAKE PROVISIONS FOR ACCESS TO THE WORK AT NO ADDITIONAL COST TO THE CONTRACT. NO EXTENSION OF CONTRACT TIME WILL BE CONSIDERED FOR DELAYS DUE TO LACK OF ADEQUATE ACCESS TO THE WORK.
14. AURORA MUNICIPAL AIRPORT WILL BE IN OPERATION DURING THE CONSTRUCTION OF THIS PROJECT. COORDINATION OF WORK WITH THE AIRPORT IS MANDATORY SO AS TO MINIMIZE IMPACTS ON AIRPORT OPERATIONS.
15. APPROXIMATE LOCATION OF HAUL ROUTES ON THE AIRPORT SITE ARE SHOWN ON THE GENERAL PROJECT LAYOUT AND THE PHASING PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE ROADS USED AS HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. THE BEFORE AND AFTER CONDITION OF ON-SITE HAUL ROUTES SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE CONTRACTOR AND THE ENGINEER. FENCING, DRAINAGE, GRADING AND OTHER MISCELLANEOUS CONSTRUCTION REQUIRED TO CONSTRUCT TEMPORARY HAUL ROUTES OR ACCESS POINTS ON THE AIRPORT WILL BE THE CONTRACTOR'S TOTAL RESPONSIBILITY AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE WORK. ALL ON-SITE ACCESS ROADS TO AIRPORT FACILITIES SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES.
16. MOBILIZATION/EQUIPMENT STORAGE AREA WILL BE MADE AVAILABLE FOR CONTRACTOR'S MOBILIZATION AND STORAGE AS SHOWN ON THE PLANS. THIS AREA SHALL BE RESTORED TO THE ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT AT THE CONTRACTOR'S EXPENSE.
17. LOCATION OF KNOWN EXISTING AIRPORT UNDERGROUND CABLES ARE SHOWN ON THE PLANS AND MUST BE VERIFIED BY THE CONTRACTOR. REPAIR OF DAMAGED CABLE MUST BE STARTED IMMEDIATELY AND CONTINUED UNTIL COMPLETED. ALL SUCH REPAIRS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER OF THE CABLE OR FACILITY, AND SHALL BE AT THE CONTRACTOR'S EXPENSE. IF FAA CABLES ARE DAMAGED, REPAIRS SHALL BE DONE FROM PREVIOUS EXISTING TERMINATION POINT TO PREVIOUS EXISTING TERMINATION POINT IN ACCORDANCE WITH FAA REQUIREMENTS AND IN THE PRESENCE OF A FAA REPRESENTATIVE. THE OWNER MAY ELECT TO HAVE THE REPAIR PERFORMED BY OTHERS IN WHICH CASE THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING THE INCURRED COSTS OF REPAIRS.
18. COORDINATION MEETINGS - THE CONTRACTOR SHALL CONDUCT WEEKLY COORDINATION MEETINGS TO DISCUSS WORK AREAS AND SCHEDULING, ETC. WITH THE ENGINEER, AIRPORT OPERATIONS, FAA, AND OTHER APPROPRIATE OFFICIALS. MINUTES FROM THE WEEKLY MEETINGS SHALL BE PREPARED BY THE CONTRACTOR, FURNISHED TO ALL ATTENDEES PRIOR TO THE SUBSEQUENT MEETING, AND KEPT ON FILE AT THE FIELD OFFICE. THE COORDINATION MEETING COSTS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
19. THE CONTRACTOR SHALL PROVIDE THE PHONE NUMBERS OF THREE PERSONNEL, INCLUDING THE PROJECT SUPERINTENDENT, WHO MAY BE CONTACTED IN AN EMERGENCY. PERSONNEL SHALL BE ON CALL 24 HOURS PER DAY FOR MAINTAINING AIRPORT HAZARD LIGHTING AND BARRICADES.
20. ALL EXISTING TAXIWAY AND RUNWAY AIRFIELD LIGHTING CIRCUITS, FAA CABLES AND OTHER ELECTRICAL CABLES SHALL REMAIN IN SERVICE AT ALL TIMES. ALL EXISTING LIGHTING AND VAULT EQUIPMENT SHALL REMAIN IN SERVICE UNTIL PROPOSED IMPROVEMENTS ARE INSTALLED AND OPERATIONAL, UNLESS OTHERWISE APPROVED BY THE ENGINEER. ANY CABLES DAMAGED BY THE CONTRACTOR SHALL BE IMMEDIATELY REPAIRED AT HIS EXPENSE. ANY NECESSARY TEMPORARY JUMPER CABLES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
21. COORDINATION BY THE CONTRACTOR WITH THE EXISTING UTILITIES SHALL BE COMPLETED BEFORE CONSTRUCTION IS STARTED. CONTRACTOR IS REFERRED TO SECTION 50-17 OF THE SPECIAL PROVISIONS FOR SPECIFIC REQUIREMENTS. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER OR THE DESIGN ENGINEER ASSUME ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED THAT THE LOCATIONS, SIZE AND TYPE MATERIAL OF EXISTING UNDERGROUND UTILITIES AS INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY OF HIS OPERATIONAL PLANS. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATING UTILITIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY, THE RESIDENT ENGINEER AND THE AIRPORT MANAGER. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT MANAGER.
22. CONTRACTOR WILL BE REQUIRED TO PUT AIRPORT FLAGS OR A WORKING BEACON LIGHT ON ALL EQUIPMENT AT ALL TIMES DURING CONSTRUCTION. SEE FLAG DETAIL.
23. ALL AIRFIELD LIGHTING AND LIGHTING GUIDANCE SYSTEMS (NAVAIDS) LOCATED WITHIN AND IMMEDIATELY ADJACENT TO THE CONTRACTORS WORK ZONE SHALL BE CHECKED FOR OPERATIONAL CONDITION PRIOR TO THE DEPARTURE FROM THE AIRPORT WITH THE AIRPORT MANAGER. ANY DEFICIENCIES IN THESE SYSTEMS DUE TO THE ACTS OF CONTRACTOR OR HIS SUBCONTRACTORS, SUPPLIERS OR CONSULTANTS SHALL BE REPAIRED IMMEDIATELY.
24. PREPARE A SAFETY PLAN COMPLIANCE DOCUMENT. THE SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) DETAILS HOW THE CONTRACTOR WILL COMPLY WITH THE CSPP. ALSO, IT WILL NOT BE POSSIBLE TO DETERMINE ALL SAFETY PLAN DETAILS (FOR EXAMPLE SPECIFIC HAZARD EQUIPMENT AND LIGHTING, CONTRACTOR'S POINTS OF CONTACT, CONSTRUCTION EQUIPMENT HEIGHTS) DURING THE DEVELOPMENT OF THE CSPP. THE SUCCESSFUL CONTRACTOR MUST DEFINE SUCH DETAILS BY PREPARING AND SPCD THAT THE AIRPORT OPERATOR REVIEWS FOR APPROVAL PRIOR TO ISSUANCE OF A NOTICE-TO-PROCEED. THE SPCD IS A SUBSET OF THE CSPP, SIMILAR TO HOW A SHOP DRAWING REVIEW IS A SUBSET TO THE TECHNICAL SPECIFICATIONS.

SUGGESTED SEQUENCE OF CONSTRUCTION

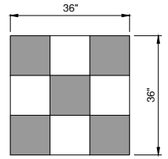
- COORDINATE WITH LOCAL UTILITY COMPANIES FOR CONNECTION OF ELECTRIC SERVICE AND NATURAL GAS SERVICE.
- PROVIDE TEMPORARY GENERATOR TO KEEP AIRFIELD LIGHTING AND NAVAIDS CIRCUITS OPERATIONAL AND ENERGIZED DURING CONSTRUCTION.
- REMOVE AND REPLACE AIRFIELD LIGHTING REGULATORS.
- UPGRADE EXISTING AIRFIELD LIGHTING VAULT.
- REMOVE AND REPLACE STAND-BY NATURAL GAS GENERATOR.
- REPLACE EXISTING ALCMS.
- TEST AND COMMISSION NEW EQUIPMENT FOR OPERATION

LEGEND

- WORK AREA LIMITS
- CONTRACTOR'S HAUL ROUTE
- AIRCRAFT MOVEMENT AREA
- CONTRACTOR'S EMPLOYEE PARKING, EQUIPMENT AND MATERIAL STORAGE LOCATION
- (A) CRITICAL POINT

CRITICAL POINTS TABLE

POINT	APPROXIMATE ELEVATION OF GROUND	ANTICIPATED EQUIPMENT AND HEIGHT	APPROXIMATE ELEVATION OF EQUIPMENT	LATITUDE	LONGITUDE
A	700	TRUCK BED LIFT - 25'	725	41°45'55.31"	88°28'03.22"
B	700	TRUCK BED LIFT - 25'	725	41°45'55.11"	88°28'03.22"
C	700	TRUCK BED LIFT - 25'	725	41°45'55.30"	88°28'04.06"
D	700	TRUCK BED LIFT - 25'	725	41°45'55.10"	88°28'04.05"
E	700	CRANE - 70'	770	41°45'55.91"	88°28'03.42"
F	700	CRANE - 70'	770	41°45'55.90"	88°28'04.41"
G	700	CRANE - 70'	770	41°45'55.08"	88°28'03.40"
H	700	CRANE - 70'	770	41°45'55.07"	88°28'04.39"



CONSTRUCTION EQUIPMENT AND TRUCK SIGNAL FLAG

NOT TO SCALE

CMT

CONSULTANTS

FINAL SUBMITTAL

REHABILITATE AIRFIELD LIGHTING VAULT AND REPLACE VAULT GENERATOR

SEPTEMBER 13, 2024

OWNER

AURORA ILLINOIS CITY OF LIGHTS

AURORA MUNICIPAL AIRPORT

AURORA MUNICIPAL AIRPORT

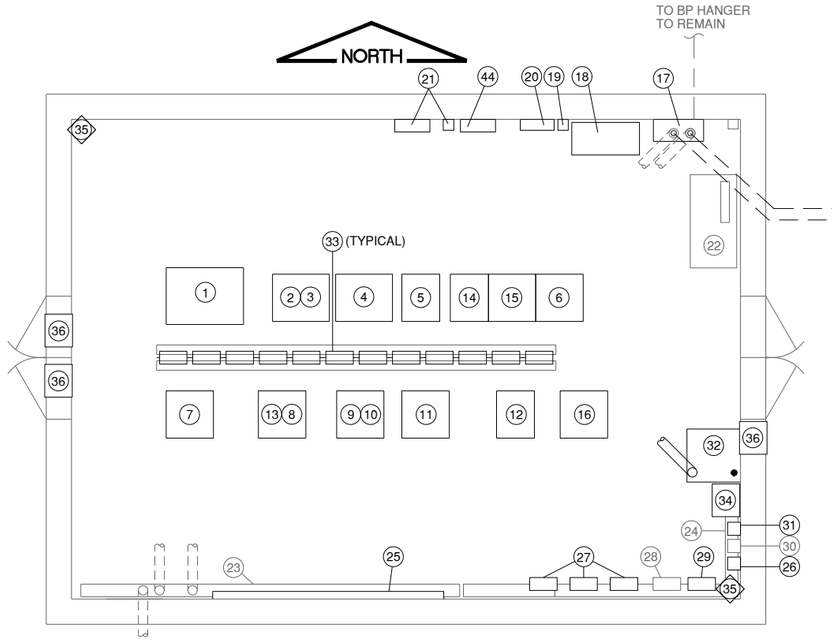
MARK	DATE	DESCRIPTION

IL PROJECT NO:	ARR4915
CMT PROJECT NO:	20092270-00
CAD DWG FILE:	2009227000 - SEQUENCE PLAN.DWG
DESIGNED BY:	ARM
DRAWN BY:	ARM
CHECKED BY:	DKP
APPROVED BY:	ARM
COPYRIGHT:	

SHEET TITLE

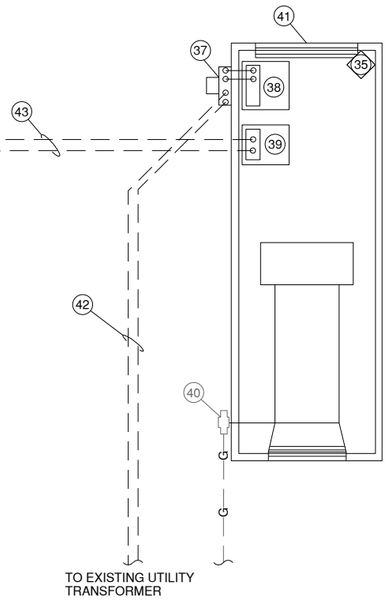
SEQUENCE OF CONSTRUCTION AND GENERAL NOTES/DETAILS

SHEET 3 OF 13



EXISTING ELECTRICAL VAULT PLAN

NOT TO SCALE

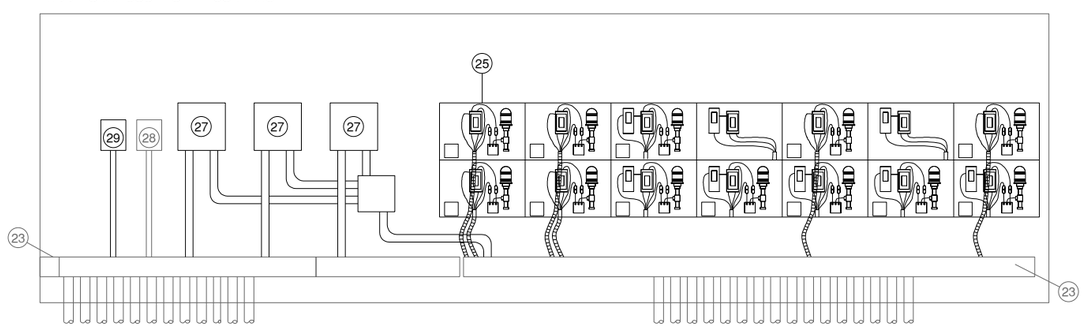


EXISTING GENERATOR PLAN

NOT TO SCALE

NOTES

1. ALL NEW WORK OR ITEMS BEING MODIFIED ARE SHOWN DARK. ALL OTHER ITEMS SHOWN ARE FOR INFORMATIONAL PURPOSE ONLY.
2. ALL REMOVED AND REPLACED CONDUIT AND CONDUCTORS SHALL BE DISPOSED OF OFF SITE.
3. EXISTING AIRFIELD LIGHTS CIRCUITS AND REGULATORS SHALL REMAIN OPERATIONAL UNTIL NEW EQUIPMENT IS READY TO BE INSTALLED. CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY POWER TO KEEP VAULT OPERATIONAL DURING CONSTRUCTION.
4. EXISTING VAULT GROUNDING SYSTEM SHALL REMAIN AND SHALL BE PROTECTED FROM ANY DAMAGE DURING CONSTRUCTION.
5. ALL SALVAGED ITEMS SHALL BE REMOVED AND TURNED OVER TO THE AIRPORT. ITEMS SHALL BE TRANSPORTED BY THE CONTRACTOR TO THE LOCATION DESIGNATED BY THE AIRPORT. IF THE AIRPORT DOES NOT WANT ANY OF THE REMOVED MATERIALS THEN THE CONTRACTOR SHALL DISPOSE OF OFF AIRPORT PROPERTY AT NO ADDITIONAL COST TO THE CONTRACT.
6. EXISTING CONDUCTORS AND CONDUITS SHALL BE REMOVED WITH THE EXISTING EQUIPMENT TO BE REMOVED. UNDERGROUND CONDUITS SHALL BE RE-USED UNLESS NOTED OTHERWISE.
7. REMOVE AND REPLACE EXISTING POWER PANEL. ALIGN NEW PANEL WITH EXISTING UNDERGROUND CONDUITS. REFER TO ONE-LINE AND PANEL SCHEDULE.
8. CONTRACTOR SHALL INSTALL JUMPERS AND/OR BY-PASS PLUG CUT-OUT AND INDICATOR LIGHTS TO KEEP EXISTING CIRCUITS OPERATIONAL DURING CONSTRUCTION. COST OF ALL TEMPORARY CONNECTIONS AND JUMPERS SHALL BE INCIDENTAL TO VAULT MODIFICATIONS PAY ITEM.
9. NEW GENERATOR AND GENERATOR ENCLOSURE IS SHOWN BASED ON "BASIS OF DESIGN" TO FIT ON EXISTING CONCRETE PAD ALIGN WITH EXISTING NATURAL GAS SERVICE AND UNDERGROUND CONDUITS. CONTRACTOR TO COORDINATE WITH SELECTED GENERATOR MANUFACTURER OR MODIFY EXISTING CONCRETE PAD, CONDUIT STUBS AND NATURAL GAS AT NO ADDITIONAL COST TO THE CONTRACT.



AIRFIELD ELECTRICAL VAULT SOUTH WALL MODIFICATIONS

NOT TO SCALE

AURORA MUNICIPAL AIRPORT VAULT NOMENCLATURE

1. EXISTING SPARE REGULATOR TO BE REMOVED.
2. EXISTING 30KW, 3-STEP REGULATOR FOR TAXIWAY "A" WEST TO BE REMOVED.
3. EXISTING 30KW, 3-STEP REGULATOR FOR RUNWAY 9-27 TO BE REMOVED.
4. EXISTING 15KW, 3-STEP REGULATOR FOR TAXIWAY "C" TO BE REMOVED.
5. EXISTING 10KW, 3-STEP REGULATOR FOR TAXIWAY "P" TO BE REMOVED.
6. EXISTING 20KW, 3-STEP REGULATOR FOR TAXIWAY "A" EAST TO BE REMOVED.
7. EXISTING 10KW, 3-STEP REGULATOR FOR 18-36 SPARE REGULATOR TO BE REMOVED.
8. EXISTING 30KW, 5-STEP REGULATOR FOR RUNWAY 9-27 SPARE TO BE REMOVED.
9. EXISTING 30KW, 3-STEP REGULATOR FOR TAXIWAY "B" TO BE REMOVED.
10. EXISTING 20KW, 5-STEP REGULATOR FOR RUNWAY 18-36 TO BE REMOVED.
11. EXISTING 30KW, 5-STEP REGULATOR FOR RUNWAY 15-33 TO BE REMOVED.
12. EXISTING 30KW, 5-STEP REGULATOR FOR RUNWAY 15-33 BACK UP TO BE REMOVED.
13. EXISTING DECOMMISSIONED REGULATOR TO BE REMOVED.
14. EXISTING DECOMMISSIONED REGULATOR TO BE REMOVED.
15. EXISTING 20KW, 3-STEP REGULATOR FOR TAXIWAY "A" EAST SPARE TO BE REMOVED.
16. EXISTING 7.5KW, 3-STEP REGULATOR FOR 9-27 RUNWAY DISTANCE REMAINING SIGNS TO BE REMOVED.
17. EXISTING HIGH VOLTAGE LIGHTING PANEL. 600A, 480/277V, 3 PHASE TO BE REMOVED (NOTE 7).
18. EXISTING 150KVA 480-120/208Y, 3 PHASE LIGHTING TRANSFORMER TO BE REMOVED.
19. NORTH AIRFIELD BOOSTER TRANSFORMER / WIND-TEE BOOSTER TRANSFORMER TO BE REMOVED.
20. EXISTING LOW VOLTAGE LIGHTING PANEL. 225A, 120/208Y, 3 PHASE, 4 WIRE TO BE REMOVED.
21. EXISTING APRON LIGHTING PANEL AND CONTACTOR TO BE REMOVED.
22. EXISTING DESK TO REMAIN.
23. EXISTING 8" BY 8" HIGH VOLTAGE WIREWAY TO REMAIN.
24. EXISTING 8" BY 8" LOW VOLTAGE WIREWAY TO REMAIN.
25. EXISTING PLUG CUTOUT, GROUNDING SWITCH, INDICATOR LIGHT AND MOUNTING BACKBOARD FOR REGULATORS TO BE REMOVED (NOTE 8).
26. INTERFACE CONTROL PANEL FOR LOW VOLTAGE AIRFIELD CIRCUITS, BEACON, WINDTEE AND REILS TO BE REMOVED.
27. EXISTING (3) L 884 PCU CONTROLLERS FOR LAHSO CIRCUITS AND JUNCTION BOX TO BE REMOVED.
28. EXISTING CONTACTORS FOR RUNWAY 27 REILS TO REMAIN.
29. EXISTING CONTACTORS FOR WINDTEE TO BE REMOVED.
30. EXISTING FIBER OPTIC PATCH PANEL TO REMAIN.
31. EXISTING L-854 RADIO CONTROLLER TO BE REMOVED.
32. EXISTING L-890 AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM (ALCMS)EQUIPMENT RACK WITH TOUCHSCREEN MONITOR AND PRINTER TO BE REMOVED.
33. EXISTING INTERFACE CONTROL PANEL AND INSULATION RESISTANCE MEASURING SYSTEM MOUNTED ON UNISTRUT FRAME FOR EACH REGULATOR TO BE REMOVED.
34. EXISTING L-821 PANEL AND CABINET TO BE REMOVED.
35. EXISTING UNIT HEATER TO BE REMOVED.
36. EXISTING EXHAUST FANS AND LOUVERS TO BE REMOVED.
37. EXISTING C.T. CABINET AND UTILITY METER TO BE REMOVED.
38. EXISTING UTILITY CIRCUIT BREAKER TO BE REMOVED.
39. EXISTING AUTOMATIC TRANSFER SWITCH TO BE REMOVED.
40. EXISTING NATURAL GAS METER TO REMAIN. (NOTE 9)
41. EXISTING 400KW/500KVA NATURAL GAS GENERATOR WITH ENCLOSURE TO BE REMOVED.
42. EXISTING ELECTRIC SERVICE CONDUCTORS FROM UTILITY TRANSFORMER TO BE REMOVED. EXISTING CONDUITS SHALL BE PROTECTED AND RE-USED. REFER TO VAULT ONE-LINE.
43. EXISTING ELECTRIC FEED TO VAULT MAIN POWER PANEL TO BE REMOVED. EXISTING CONDUITS SHALL BE PROTECTED AND RE-USED. REFER TO VAULT ONE-LINE.
44. EXISTING DISCONNECT FOR APRON LIGHTING TO BE REMOVED.

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FINAL SUBMITTAL

REHABILITATE AIRFIELD LIGHTING VAULT AND REPLACE VAULT GENERATOR

SEPTEMBER 13, 2024

OWNER

AURORA ILLINOIS CITY OF LIGHTS

AURORA MUNICIPAL AIRPORT

AURORA MUNICIPAL AIRPORT

MARK	DATE	DESCRIPTION

IL PROJECT NO:	ARR4915
CMT PROJECT NO:	20092270-00
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EXISTING VAULT PLAN

SHEET 4 OF 13

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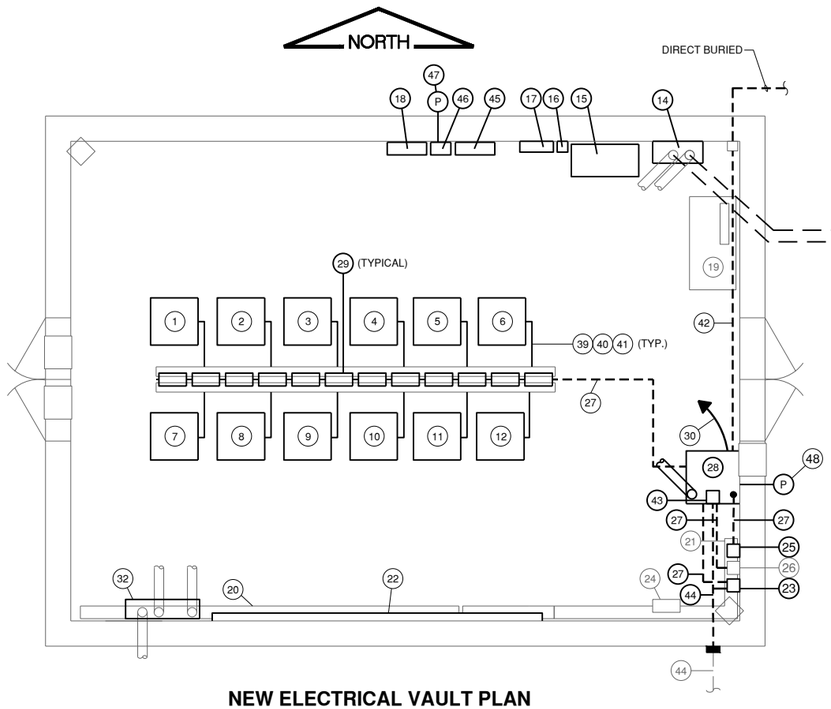
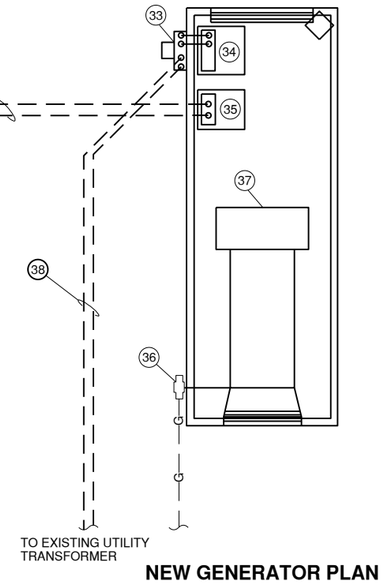


NEW ELECTRICAL VAULT PLAN

NOT TO SCALE



NEW GENERATOR PLAN

NOT TO SCALE

NOTES

1. EXISTING EQUIPMENT TO REMAIN IS SHOWN FOR INFORMATION ONLY. NEW WORK IS SHOWN IN BOLD.
2. INSTALL LAMACOID NAMEPLATES ON ALL EQUIPMENT.
3. CONNECT NEW REGULATORS TO EXISTING GROUNDING BUS. SEE DETAILS ON SHEET 10.
4. NEW ALCMS RACK SHALL BE SUPPLIED WITH WHEELS. NEW ALCMS SHALL BE OPERATIONAL AND TESTED PRIOR TO THE REMOVAL OF EXISTING PLC CABINET. PROVIDE SUFFICIENT CABLE SLACK REQUIRED FOR ALCMS RACK TO BE OPERATIONAL.
5. NEW ATS SHALL BE LOCATED INSIDE THE GENERATIOR ENCLOSURE. INSTALL INTERFACE UNIT INSIDE GENERATOR ENCLOSURE. USE EXISTING (2) 24 AWG SHIELDED TWISTED PAIR IN 1" GRS CONDUIT TO ALCMS. CONTRACTOR TO COORDINATE AND VERIFY REQUIRED RELAYS FOR ALCMS MONITORING.
6. INSTALL NEW INTERFACE CONTROL PANEL AND INSULATION RESISTANCE MEASURING SYSTEM ON UNISTRUT FRAME NEXT TO EACH REGULATOR (NOTE 9).
7. EXISTING ALCMS, ALCMS COMPONENTS AND CONTROL WIRES TO EACH REGULATOR SHALL BE REMOVED AND REPLACE WITH NEW COMPONENTS AND CONTROL WIRES TO MATCH MANUFACTURERS SPECIFICATIONS.
8. REMOVE AND INSTALL NEW PATCH PANEL TO TERMINATE NEW FIBER OPTIC CABLE FOR ALCMS. USE SPARE FIBERS TO KEEP EXISTING AND NEW ALCMS OPERATIONAL SIMULTANEOUSLY DURING TESTING OF NEW ALCMS.
9. IF NEW REGULATORS AND ALCMS ARE SAME MANUFACTURER, NEW REGULATORS WITH BUILT-IN ALCMS INTERFACE UNITS SHALL BE ACCEPTABLE IN LIEU OF EXTERNAL INTERFACE UNITS.
10. REMOVE AND REPLACE EXISTING PANEL. ALIGN PANEL WITH EXISTING CONDUITS. REFER TO ONE-LINE AND PANEL SCHEDULE. RECONNECT ALL EXISTING CIRCUITS AND PROVIDE UPDATED CIRCUIT DIRECTORY
11. CONTRACTOR SHALL PROVIDE TEMPORARY GENERATOR TO KEEP ALL AIRFIELD AND NAVAID CIRCUITS OPERATIONAL DURING VAULT SHUTDOWNS. COST SHALL BE INCIDENTAL TO VAULT MODIFICATIONS.

AURORA MUNICIPAL AIRPORT VAULT NOMENCLATURE

1. NEW 30KW 3-STEP REGULATOR FOR TAXIWAY "A" EAST.
2. NEW 30KW 3-STEP REGULATOR FOR TAXIWAY "A" WEST.
3. NEW 30KW 3-STEP REGULATOR FOR TAXIWAY "B".
4. NEW 20KW 3-STEP REGULATOR FOR TAXIWAY "C".
5. NEW 15KW 3-STEP REGULATOR FOR TAXIWAY "P".
6. NEW 30KW 3-STEP REGULATOR FOR TAXIWAY SPARE.
7. NEW 30KW 5-STEP REGULATOR FOR RUNWAY SPARE.
8. NEW 30KW 5-STEP REGULATOR FOR RUNWAY 15-33.
9. NEW 30KW 5-STEP REGULATOR FOR RUNWAY SPARE.
10. NEW 30KW 5-STEP REGULATOR FOR RUNWAY 9-27.
11. NEW 7.5KW 3-STEP REGULATOR FOR RUNWAY DISTANCE REMAINING 9-27.
12. NEW 7.5KW 3-STEP REGULATOR FOR RUNWAY DISTANCE REMAINING 9-27 SPARE.
13. NOT USED
14. NEW HIGH VOLTAGE LIGHTING PANEL. 600A, 480/277V, 3 PHASE, 4-WIRE (NOTE 10).
15. NEW 150KVA 480-120/208Y, 3 PHASE LIGHTING TRANSFORMER.
16. NORTH AIRFIELD BOOSTER TRANSFORMER / WIND-TEE BOOSTER TRANSFORMER.
17. NEW LOW VOLTAGE LIGHTING PANEL. 225A, 120/208Y, 3 PHASE, 4 WIRE (NOTE 10).
18. NEW APRON LIGHTING PANEL, 225A, 480/277V, 3-PHASE, 4-WIRE (NOTE 10).
19. EXISTING DESK.
20. EXISTING 8" BY 8" HIGH VOLTAGE WIREWAY.
21. EXISTING 8" BY 8" LOW VOLTAGE WIREWAY.
22. NEW PLUG CUTOUT, GROUNDING SWITCH AND INDICATOR LIGHT FOR REGULATORS.
23. NEW INTERFACE CONTROL PANEL FOR LOW VOLTAGE AIRFIELD CIRCUITS, BEACON, WINDTEE AND REILS.
24. EXISTING CONTACTORS FOR RUNWAY 27 REILS.
25. NEW L-854 RADIO CONTROLLER. INSTALL NEW ANTENNA AND CABLE
26. EXISTING FIBER OPTIC PATCH PANEL.
27. NEW (2) 24 AWG SHIELD TWISTED PAIR CABLE OR CAT-6 IN 1" CONDUIT FOR COMMUNICATION BETWEEN REGULATOR INTERFACE UNITS AND ALCMS
28. NEW L-890 AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM (ALCMS)EQUIPMENT RACK WITH TOUCHSCREEN MONITOR AND PRINTER.
29. NEW INTERFACE CONTROL PANEL AND INSULATION RESISTANCE MEASURING SYSTEM MOUNTED ON UNISTRUT FRAME. (NOTE 9)
30. NEW (4) #12, (2) #12 GND. IN 1" CONDUIT TO LOW VOLTAGE PANEL OR AS REQUIRED BY ALCMS MANUFACTURER.
31. NOT USED
32. NEW L-823 SPLICE ENCLOSURE. SEE DETAILS.
33. NEW C.T. CABINET AND UTILITY METER.
34. NEW 600A, 3-POLE, 480/277V UTILITY CIRCUIT BREAKER, SERVICE ENTRANCE RATED 65 KAIC
35. NEW 600A, 3-POLE, 480/277V AUTOMATIC TRANSFER SWITCH. (NOTE 5)
36. EXISTING NATURAL GAS METER. CONNECT GAS SERVICE TO GENERATOR.
37. NEW 500KVA / 400KW 480/277V, 3-PHASE, 4-WIRE NATURAL GAS GENERATOR IN SOUND ATTENUATED ENCLOSURE. SEE DETAILS.
38. NEW 2-SETS OF 4 - 350 KCMIL, 1 #2/0 GND. IN EXISTING 2 - 4" CONDUITS.
39. NEW 2 - 1/C #8 5KV, L-824C IN FLEX CONDUIT.
40. NEW 480V POWER CONDUCTORS IN FLEX CONDUIT. REFER TO VAULT ONE-LINE.
41. NEW CONTROL CONDUCTORS FROM EXISTING ALCMS INTERFACE IN FLEX CONDUIT.
42. NEW (2) 24 AWG SHIELDED TWISTED PAIR OR CAT-6 CABLE IN 1" CONDUIT FOR COMMUNICATION BETWEEN GENERATOR/ATS INTERFACE UNIT AND ALCMS. AS REQUIRED BY ALCMS MANUFACTURER.
43. NEW FIBER OPTIC CABLE PATCH PANEL (NOTE 8)
44. EXISTING (12) STRAND MULTI-MODE FIBER OPTIC CABLE IN EXISTING CONDUIT TO ATCT TO REMAIN AND RE-CONNECTED TO NEW ALCMS (NOTE 8).
45. NEW 200A, 480V, 3-POLE CIRCUIT BREAKER DISCONNECT FOR APRON LIGHTING.
46. NEW 200A, 3-POLE LIGHTING CONTACTOR WITH H-O-A SELECTOR SWITCH AND PHOTOCELL FOR APRON LIGHTING.
47. NEW PHOTOCELL FOR APRON LIGHTING.
48. NEW PHOTOCELL FOR ALCMS.

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REHABILITATE AIRFIELD LIGHTING VAULT AND REPLACE VAULT GENERATOR

SEPTEMBER 13, 2024

OWNER

AURORA ILLINOIS CITY OF LIGHTS

AURORA MUNICIPAL AIRPORT

AURORA MUNICIPAL AIRPORT

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NEW VAULT PLAN

SHEET 5 OF 13

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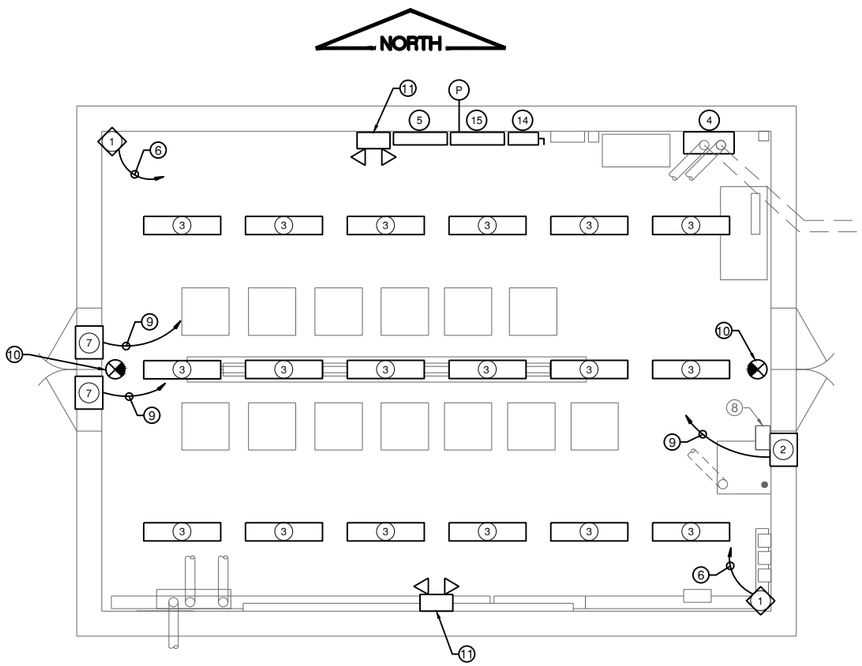
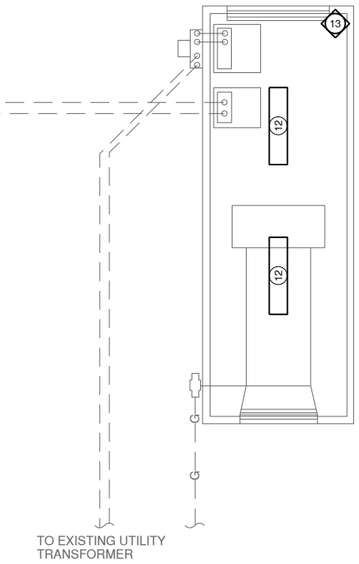


NEW VAULT LIGHTING AND POWER PLAN

NOT TO SCALE



GENERATOR PLAN

NOT TO SCALE

EQUIPMENT NOMENCLATURE

1. NEW 10KW, 480V, UNIT HEATER WITH THERMOSTAT.
2. NEW EXHAUST FANS (NOTE 3).
3. NEW LED LIGHT FIXTURE. (NOTE 5)
4. NEW HIGH VOLTAGE LIGHTING PANEL, 600A, 480/277V, 3-PHASE, 4-WIRE.
5. NEW APRON LIGHTING PANEL, 225A, 120/208V, 3-PHASE, 4-WIRE (NOTE 7).
6. NEW 3#10 THWN, 1#10 GND. IN 1" CONDUIT TO POWER PANEL. (NOTE 2)
7. NEW (2) INTAKE LOUVERS WITH BIRD SCREENS. (NOTE 3)
8. EXISTING EXHAUST FAN CONTROLLER TO REMAINS. (NOTE 4)
9. NEW 2#12 THWN, 1#12 GND. IN 3/4" CONDUIT TO EXHAUST FAN CONTROLLER.
10. NEW LED EXIT SIGNS, CONNECTED TO UNSWITCHED LIGHTING CIRCUIT.
11. NEW LED EMERGENCY LIGHTS, CONNECTED TO UNSWITCHED LIGHTING CIRCUIT.
12. NEW LED LIGHT FIXTURES FOR GENERATOR ENCLOSURE (NOTE 6).
13. NEW 5KW UNIT HEATER (NOTE 6).
14. NEW 200A, 240V, 3-POLE CIRCUIT BREAKER DISCONNECT FOR APRON LIGHTING.
15. NEW 200A, 3-POLE LIGHTING CONTACTOR WITH H-O-A SELECTOR SWITCH AND PHOTOCELL. CONNECT PHOTOCELL FOR "AUTO" SWITCH.

NOTES

1. EXISTING EQUIPMENT TO REMAIN IS SHOWN FOR INFORMATION ONLY. NEW WORK IS SHOWN IN BOLD.
2. INSTALL (2) 20A, 3-POLE CIRCUIT BREAKERS FOR UNIT HEATER CIRCUITS IN NEW 480V POWER PANEL.
3. REMOVE AND REPLACE EXISTING EXHAUST FAN AND LOUVERS. NEW EXHAUST FAN AND LOUVERS SHALL BE THE SAME SIZE AS EXISTING OPENINGS.
4. RE-CONNECT NEW CIRCUITS FOR EXHAUST FAN AND LOUVERS TO EXISTING CONTROLLER. INTAKE LOUVERS SHALL BE INTERLOCKED WITH EXHAUST FAN.
5. REMOVE AND REPLACE EXISTING LUMINAIRES. INSTALL NEW 2#12 THWN, 1#12 GND. IN 3/4" CONDUIT TO EXISTING LIGHTING CIRCUITS. REMOVE AND REPLACE EXISTING LIGHT SWITCHES WITH DIMMABLE SWITCHES AS RECOMMENDED BY LIGHT FIXTURE MANUFACTURER.
6. GENERATOR AND GENERATOR ENCLOSURE MANUFACTURER TO PROVIDE LIGHTING PANEL AND TRANSFORMER TO FEED ENCLOSURE LIGHTING, HEATER AND GENERATOR AUXILIARY CIRCUITS.
7. RE-CONNECT ALL EXISTING APRON LIGHTING AND PARKING LOT LIGHTING CIRCUITS.

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FINAL SUBMITTAL

REHABILITATE
AIRFIELD LIGHTING
VAULT AND REPLACE
VAULT GENERATOR

SEPTEMBER 13, 2024

OWNER

AURORA ILLINOIS
CITY OF LIGHTS

AURORA
MUNICIPAL AIRPORT

AURORA MUNICIPAL AIRPORT

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VAULT LIGHTING AND POWER

SHEET 6 OF 13

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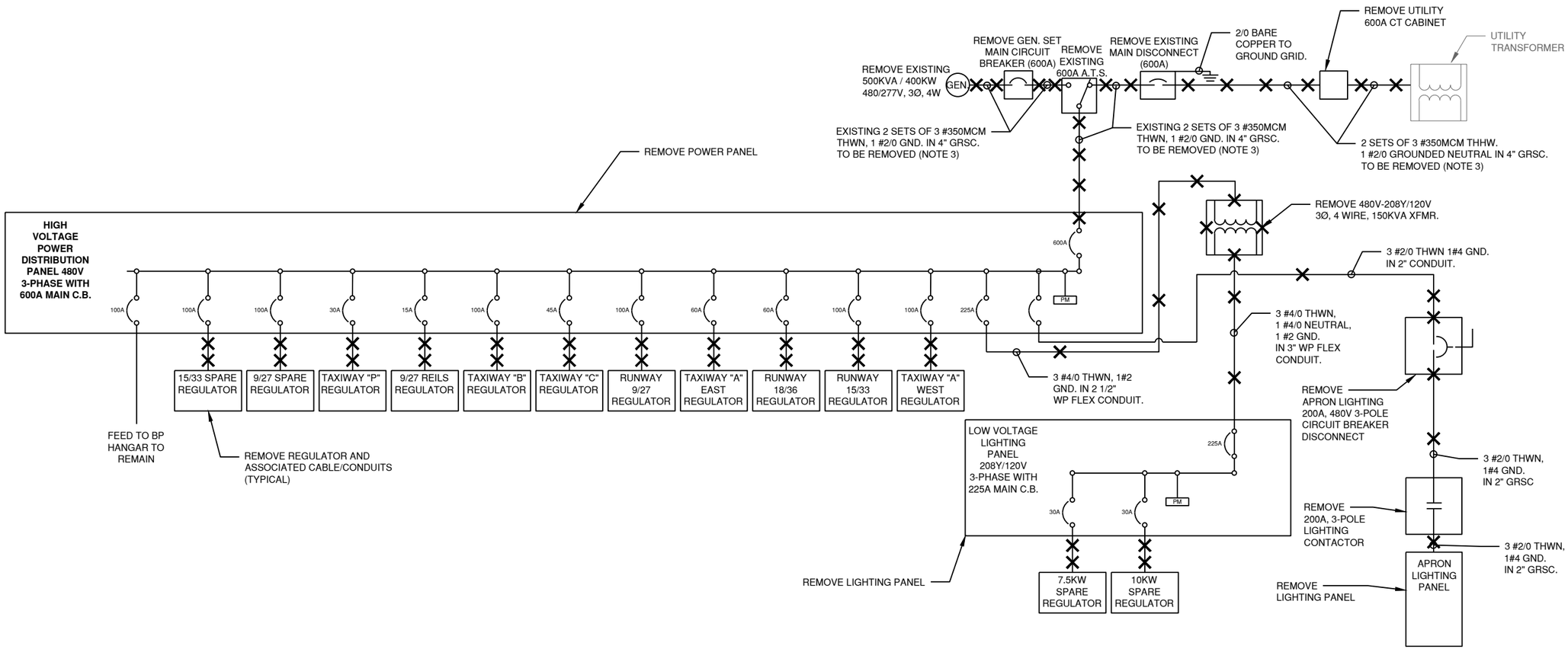

LEGEND

XX CABLES TO BE REMOVED

NOTES

1. ALL NEW WORK OR ITEMS BEING MODIFIED ARE SHOWN IN BOLD. ALL OTHER ITEMS SHOWN ARE FOR INFORMATIONAL PURPOSE ONLY.
2. ALL REMOVED AND REPLACED EQUIPMENT, CONDUIT AND CONDUCTORS SHALL BE DISPOSED OF OFF SITE.
3. REMOVE EXISTING CONDUCTORS, EXISTING CONDUIT TO REMAIN AND SHALL BE RE-USED.
4. PROVIDE TEMPORARY GENERATOR TO KEEP AIRFIELD LIGHTING AND NAVAIDS CIRCUITS OPERATIONAL DURING REMOVAL AND REPLACEMENT OF POWER PANELS.

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FINAL SUBMITTAL

REHABILITATE AIRFIELD LIGHTING VAULT AND REPLACE VAULT GENERATOR

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EXISTING VAULT ONE-LINE

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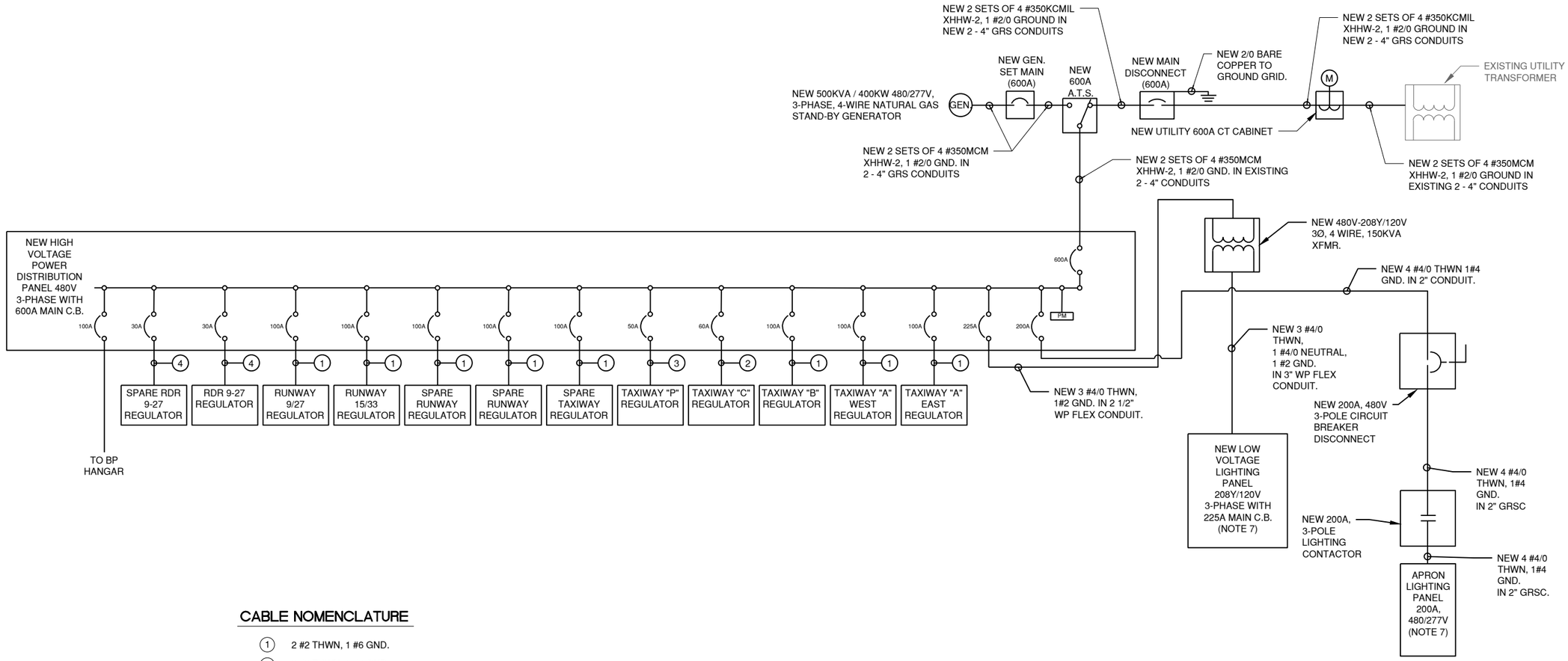

CABLE NOMENCLATURE

(1) 2 #2 THWN, 1 #6 GND.

(2) 2 #6 THWN, 1 #8 GND.

(3) 2 #8 THWN, 1 #10 GND.

(4) 2 #10 THWN, 1 #10 GND.

NOTES

1. INSTALL CIRCUIT AND EQUIPMENT IDENTIFICATION (NAME PLATE) FOR ALL EQUIPMENT.
2. ALL PARALLEL CONDUCTORS FOR EACH FEEDER SHALL BE OF EXACT SAME LENGTH IN COMPLIANCE WITH NATIONAL ELECTRIC CODE.
3. CONTRACTOR SHALL PROVIDE SHORT CIRCUIT ANALYSIS AND PROTECTIVE DEVICE COORDINATION STUDY.
4. GENERATOR AUTOMATIC STARTING AND SWITCHING SHALL BE CAPABLE OF SUPPLYING THE RATED LOAD WITHIN 10 SECONDS OF POWER FAILURE.
5. REMOVE AND REPLACE POWER DISTRIBUTION EQUIPMENT AS SHOWN ON ONE-LINE. EXISTING CIRCUITS TO REMAIN SHALL BE RE-CONNECTED TO NEW CIRCUIT BREAKERS. ALIGN NEW EQUIPMENT WITH CONDUITS TO REMAIN. REFER TO PANELBOARD SCHEDULES ON SHEET 9.
6. PROVIDE TEMPORARY GENERATOR TO KEEP AIRFIELD AND NAVAIDS CIRCUITS OPERATIONAL DURING REMOVAL AND REPLACEMENT OF POWER PANELS.
7. VERIFY AND RE-CONNECT ALL EXISTING CIRCUITS TO REMAIN.

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NEW VAULT ONE-LINE

PANELBOARD SCHEDULE

PANEL DESIGNATION: **MDP-1** | BOND NEUTRAL AND GROUND BAR: **NO** | POLE: **48**
LOCATION: **ELECTRICAL ROOM 125.B** | NEUTRAL BUS RATING: **100%** | SHORT CIRCUIT RATING: **65KAIC**
MFR & TYPE: **SQUARE D NQ, OR EQUIV.** | SERVICE ENTRANCE RATED: **NO** | SERIES OR FULLY RATED: **SERIES**
TVSS & DISCONNECT REQUIRED: **NO**

VOLTS: **277/480V** | MOUNTING: **SURFACE** | BUS RATING (AMPS): **600**
PHASE: **3** | ENCL RATING: **NEMA 1** | BUS: **COPPER**
WIRE: **4** | MAIN CIRCUIT BREAKER: AMP/POLE **600/3**

CKT NO.	LOAD	BREAKER SIZE	LOAD AMPS	USAGE FACTOR	PHASE AMPS (USAGE) A	B	C	POLE NO.		PHASE AMPS (USAGE) A	B	C	USAGE FACTOR	LOAD AMPS	BREAKER SIZE	LOAD	CKT NO.
1	150 KVA TRANSFORMER	225A/3P			0			1	2	0					30A/3P	HEATER EAST SIDE	2
3						0		3	4		0						4
5							0	5	6			0					6
7	HEATER WEST SIDE	30A/3P			0			7	8	0					100A/2P	RUNWAY 9-27	8
9						0		9	10		0						10
11							0	11	12			0			60A/3P	TAXIWAY C	12
13	TAXIWAY A WEST	100A/2P			0			13	14	0							14
15						0		15	16		0						16
17	SPARE TAXIWAY	100A/2P					0	17	18			0			50A/3P	LIFT STATION 1	18
19					0			19	20	0							20
21	RDR 9-27	30A/2P				0		21	22		0						22
23							0	23	24			0			100A/2P	TAXIWAY B	24
25	APRON LIGHTING DISCONNECT	200A/3P			0			25	26	0							26
27						0		27	28		0				15A/2P	9/27 REILS	28
29							0	29	30			0					30
31	RUNWAY 15/33	100A/2P			0			31	32	0					50A/2P	TAXIWAY P	32
33						0		33	34		0						34
35	SPARE 9/27 RDR	30A/2P					0	35	36			0			100A/3P	SPARE RUNWAY	36
37					0			37	38	0							38
39	TAXIWAY A EAST	100A/2P				0		39	40		0				100A/3P	SPARE RUNWAY	40
41							0	41	42			0					42
43	BP CORPORATE HANGER	100A/3P			0			43	44	0					50A/3P	LIFT STATION 2	44
45						0		45	46		0						46
47							0	47	48			0					48
SECTION TOTAL:					0	0	0			0	0	0					

	A	B	C
PHASE TOTAL AMPS:	0	0	0
PHASE TOTAL VA:	0	0	0

TOTAL USAGE LOAD: 0 VA

NOTES:

NOTE 1 (BP CORPORATE HANGER)

NOTE 1 (LIFT STATION 1)

NOTE 1 (LIFT STATION 2)

NOTES

1. RE-CONNECT EXISTING CIRCUITS TO NEW CIRCUIT BREAKERS

PANELBOARD SCHEDULE

PANEL DESIGNATION: **LV LIGHTING PANEL** | BOND NEUTRAL AND GROUND BAR: **NO** | POLE: **42**
LOCATION: **ELECTRICAL ROOM 125.B** | NEUTRAL BUS RATING: **100%** | SHORT CIRCUIT RATING: **30KAIC**
MFR & TYPE: **SQUARE D NQ, OR EQUIV.** | SERVICE ENTRANCE RATED: **NO** | SERIES OR FULLY RATED: **SERIES**
TVSS & DISCONNECT REQUIRED: **NO**

VOLTS: **120/208V** | MOUNTING: **SURFACE** | BUS RATING (AMPS): **225**
PHASE: **3** | ENCL RATING: **NEMA 1** | BUS: **COPPER**
WIRE: **4** | MAIN CIRCUIT BREAKER: AMP/POLE **225/3**

CKT NO.	LOAD	BREAKER SIZE	LOAD AMPS	USAGE FACTOR	PHASE AMPS (USAGE) A	B	C	POLE NO.		PHASE AMPS (USAGE) A	B	C	USAGE FACTOR	LOAD AMPS	BREAKER SIZE	LOAD	CKT NO.
1	NORTH AND WEST RECEPTACLES	20A/1P			0			1	2	0					20A/1P	SOUTH AND EAST RECEPTACLES	2
3	INTERIOR LIGHTS	20A/1P				0		3	4		0				20A/1P	EXTERIOR LIGHTS	4
5	EXHAUST FAN	20A/1P					0	5	6			0			20A/1P	DISTANCE REG CONTROL	6
7	SPARE	20A/1P			0			7	8	0					20A/1P	REILS 9/27 CONTROLS	8
9	BEACON	20A/1P				0		9	10		0				20A/1P	GAS PUMP	10
11	CEILOMETER	20A/1P					0	11	12			0			20A/1P	APRON LIGHTING CONTROL	12
13	WIND TEE	20A/1P			0			13	14	0					20A/1P	SPARE	14
15	EAST GATE	20A/1P				0		15	16		0				20A/1P	ENTRANCE ROAD SIGN	16
17	SPARE	30A/2P					0	17	18			0			30A/2P	SPARE	18
19					0			19	20	0							20
21	SPARE	30A/2P				0		21	22		0				30A/2P	SO GATE SO APRON	22
23							0	23	24			0					24
25	NORTH AIRFIELD GATE	30A/2P			0			25	26	0					30A/2P	NO GATE SO APRON	26
27						0		27	28		0						28
29	WEST APRON GATE	30A/2P					0	29	30			0			20A/1P	SPARE	30
31					0			31	32	0					20A/1P	SPARE	32
33	SPARE	20A/1P				0		33	34		0				20A/1P	SPARE	34
35	SPARE	40A/3P					0	35	36			0			30A/2P	SPARE	36
37					0			37	38	0							38
39						0		39	40		0				30A/2P	SPARE	40
41	ALCMS CONTROL PANEL	20A/1P					0	41	42			0					42
SECTION TOTAL:					0	0	0			0	0	0					

	A	B	C
PHASE TOTAL AMPS:	0	0	0
PHASE TOTAL VA:	0	0	0

TOTAL USAGE LOAD: 0 VA

NOTES: RE-CONNECT EXISTING CIRCUITS

PANELBOARD SCHEDULE

PANEL DESIGNATION: **APRON LIGHTING PANEL** | BOND NEUTRAL AND GROUND BAR: **NO** | POLE: **42**
LOCATION: **ELECTRICAL ROOM 125.B** | NEUTRAL BUS RATING: **100%** | SHORT CIRCUIT RATING: **65KAIC**
MFR & TYPE: **SQUARE D NQ, OR EQUIV.** | SERVICE ENTRANCE RATED: **NO** | SERIES OR FULLY RATED: **SERIES**
TVSS & DISCONNECT REQUIRED: **NO**

VOLTS: **277/480V** | MOUNTING: **SURFACE** | BUS RATING (AMPS): **225**
PHASE: **3** | ENCL RATING: **NEMA 1** | BUS: **COPPER**
WIRE: **4** | MAIN CIRCUIT BREAKER: AMP/POLE **200**

CKT NO.	LOAD	BREAKER SIZE	LOAD AMPS	USAGE FACTOR	PHASE AMPS (USAGE) A	B	C	POLE NO.		PHASE AMPS (USAGE) A	B	C	USAGE FACTOR	LOAD AMPS	BREAKER SIZE	LOAD	CKT NO.
1	SOUTH APRON 4-8	40A/3P			0			1	2	0					30A/3P	SOUTH APRON 1,2,3	2
3						0		3	4		0						4
5							0	5	6			0					6
7	SPARE	50A/3P			0			7	8	0					50A/3P	SPARE	8
9						0		9	10		0						10
11							0	11	12			0					12
13	SPARE	40A/3P			0			13	14	0					40A/3P	SPARE	14
15						0		15	16		0						16
17							0	17	18			0					18
19	POLES 1,2,3	40A/2P			0			19	20	0					30A/3P	SPARE	20
21						0		21	22		0						22
23	SPARE	20A/1P					0	23	24			0					24
25	SPARE	40A/3P			0			25	26	0					30A/3P	S APRON POLES 9-10-11	26
27						0		27	28		0						28
29							0	29	30			0					30
31	SPARE	30A/3P			0			31	32	0					15A/2P	4 HEAD PARK LOT LIGHT	32
33						0		33	34		0						34
35							0	35	36			0			20A/3P	BP HANGAR PARKING LOT	36
37	---				0			37	38	0							38
39						0		39	40		0				30A/2P	SPARE	40
41							0	41	42			0					42
SECTION TOTAL:					0	0	0			0	0	0					

	A	B	C
PHASE TOTAL AMPS:	0	0	0
PHASE TOTAL VA:	0	0	0

TOTAL USAGE LOAD: 0 VA

NOTES: RE-CONNECT EXISTING CIRCUITS

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REHABILITATE AIRFIELD LIGHTING VAULT AND REPLACE VAULT GENERATOR

SEPTEMBER 13, 2024

OWNER

AURORA ILLINOIS CITY OF LIGHTS

AURORA MUNICIPAL AIRPORT

AURORA MUNICIPAL AIRPORT

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PANELBOARD SCHEDULE

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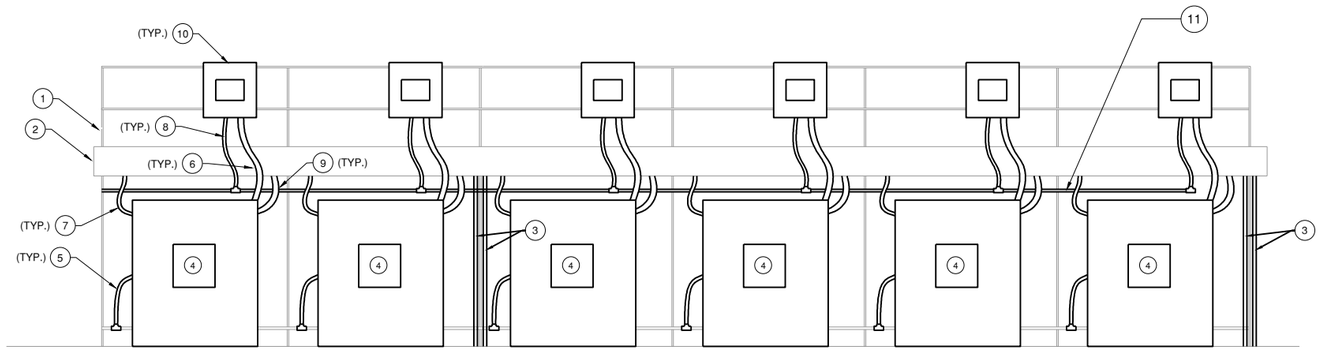
VAULT ELECTRICAL EQUIPMENT NOMENCLATURE

1. EXISTING UNITSTRUT WIREWAY RACK.
2. EXISTING HIGH VOLTAGE WIREWAY AND LOW VOLTAGE WIREWAY
3. EXISTING LOW VOLTAGE AND HIGH VOLTAGE CONDUITS WITH NEW CONDUCTORS.
4. NEW L-829 CONSTANT CURRENT AIRFIELD LIGHTING REGULATOR.
5. NEW 1/C #6 BARE COPPER GROUND, BONDED TO EXISTING GROUND BUS.
6. NEW 2#8 (5KV) IN 1 1/2" FLEX TO ALCMS.
7. NEW 2-1/C #8 (5KV) IN 1 1/2" FLEX TO HOMERUN WIREWAY.
8. NEW CONTROL/ COMMUNICATION CABLES IN 1" FLEX CONDUIT.
9. NEW REGULATOR POWER IN 1 1/2" FLEX CONDUIT TO LOW VOLTAGE WIREWAY. SEE ONE LINE DIAGRAM FOR REGULATOR WIRE SIZE.
10. NEW ALCMS INTERFACE PANEL. (ALCMS INTERFACE PANEL CAN BE BUILT INTO REGULATOR IF BOTH SHARE THE SAME MANUFACTURER.)
11. NEW (2) 24 AWG SHIELD TWISTED PAIR CABLE OR (2) CAT-6 IN 1" CONDUIT FOR COMMUNICATION BETWEEN REGULATOR INTERFACE UNITS AND ALCMS, AS REQUIRED BY ALCMS MANUFACTURER.



TYPICAL REGULATOR AND ALCMS INSTALLATION

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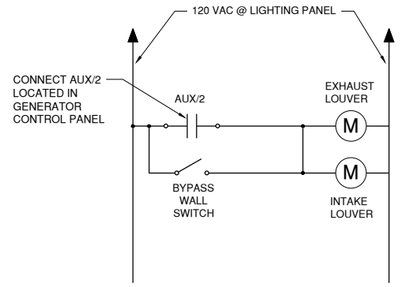

GENERATOR LOUVER MOTORS SCHEMATIC

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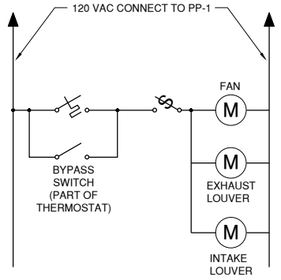

VAULT ROOM VENT FAN SCHEMATIC

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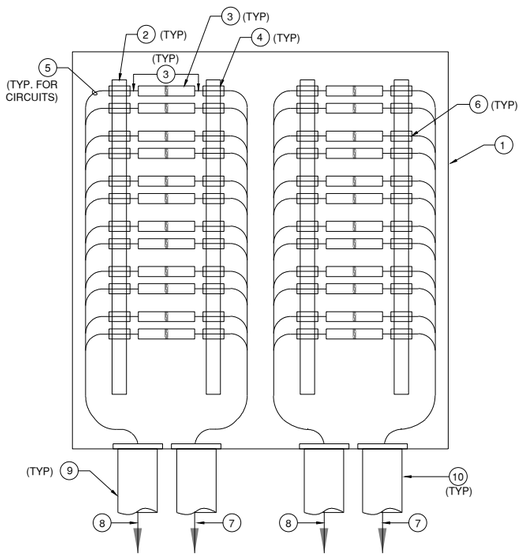
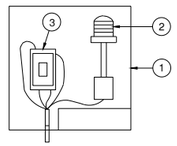


NEW L-823 SPLICE ENCLOSURE

N.T.S

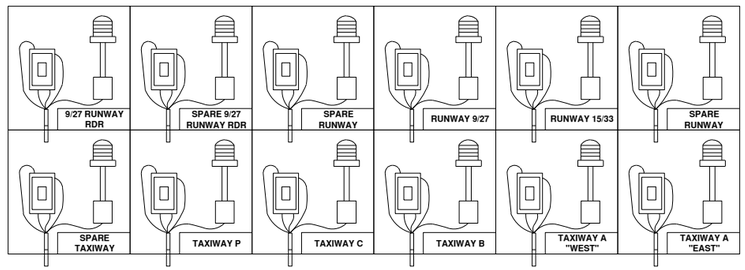
L-823 SPLICE ENCLOSURE NOTES

1. 48"W x 48"H x 12"D (MIN.) HINGED ENCLOSURE WITH MOUNTING PANEL, NEMA 1. MOUNTED ON WALL ABOVE EXISTING UNDERFLOOR HOMERUN CONDUITS INSTALL LABEL: L-823 SPLICE ENCLOSURE.
2. UNISTRUT, MOUNTED ON MOUNTING PANEL.
3. L-823 SPLICE, TYPICAL FOR ALL CIRCUITS LABEL EACH CIRCUIT.
4. 1 1/2" PVC SCH. 40 CONDUIT (MIN 2" LONG) ATTACHED TO UNITSTRUT.
5. CIRCUIT TAG, BRASS CIRCLE ENGRAVED WITH CIRCUIT DESIGNATION ATTACHED TO HOMERUN CABLES BOTH SIDES OF L-823 SPLICE.
6. 1/C #8 5KV, L-824 HOMERUN AND REGULATOR CABLES.
7. 12-1/C #8 5KV L-824 CABLES FROM MOUNTING PANEL THROUGH EXISTING WIREWAY. INSTALL NEW CABLES FOR EACH CIRCUIT TO NEW REGULATOR.
8. 8-1/C #8 5KV L-824 HOMERUN CABLES FROM AIRFIELD HANDHOLE IN EXISTING CONDUITS RECONNECT TO NEW ENCLOSURE PULL INTO L-823 SPLICE ENCLOSURE FOR LENGTH AND SLACK REQUIRED.
9. EXISTING 4-4" GRS CONDUITS.
10. CONNECT TO EXISTING HIGH VOLTAGE WIREWAY FOR AIRFIELD LIGHTING CIRCUITS.



MOUNTING PLATE NOTES

1. NEW EQUIPMENT MOUNTING PLATE 24" x 24" STEEL WITH WHITE ENAMEL PAINT.
2. NEW RUNWAY/TAXIWAY INDICATOR LIGHT (LED).
3. NEW S-1 PLUG CUT-OUT ADB SCO TYPE OR APPROVED EQUAL.
4. NEW JUNCTION BOX ADB SCO TYPE OR EQUAL WITH ISOLATION TRANSFORMER.



MOUNTING PLATE LAYOUT

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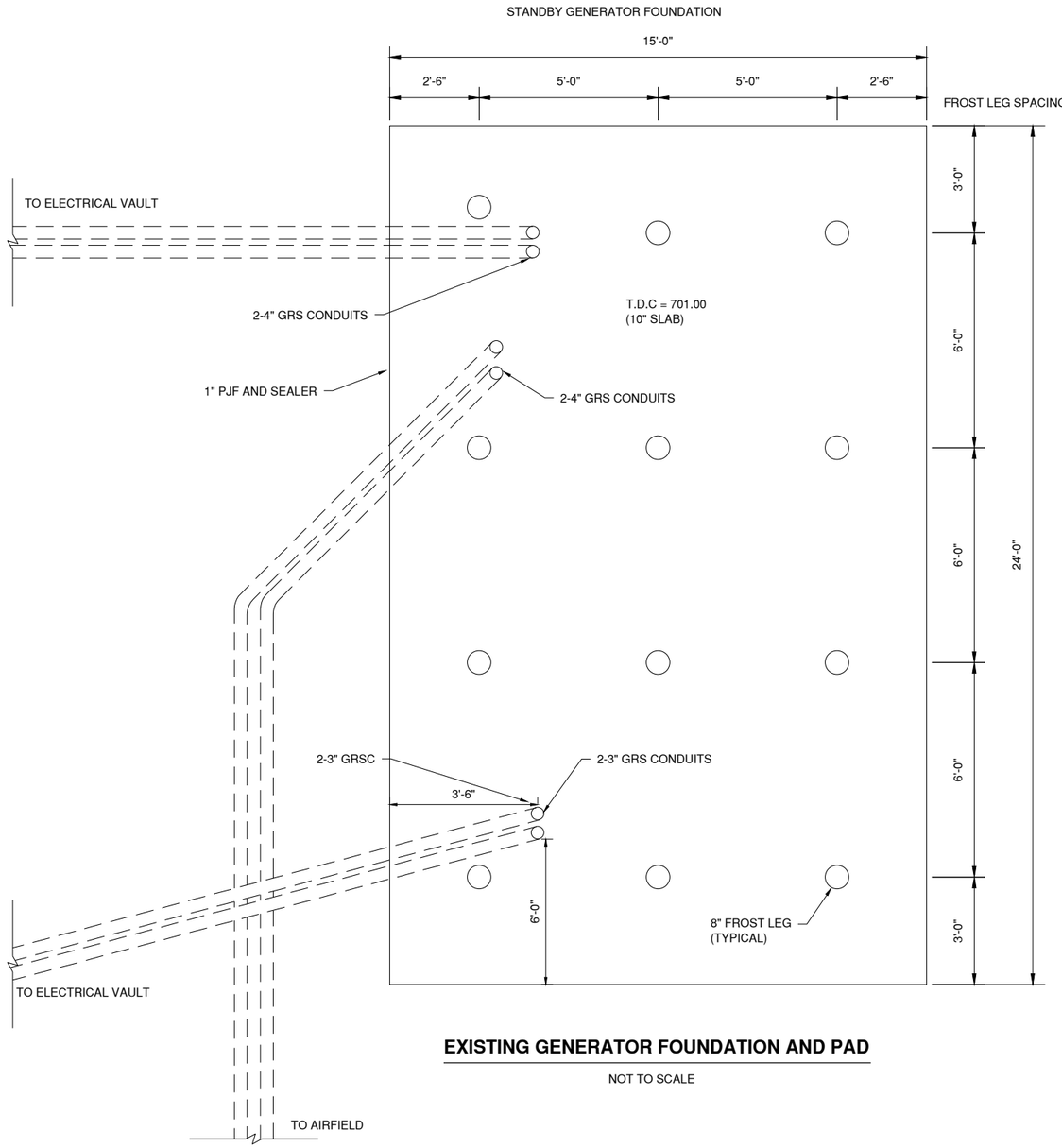

EXISTING GENERATOR FOUNDATION AND PAD

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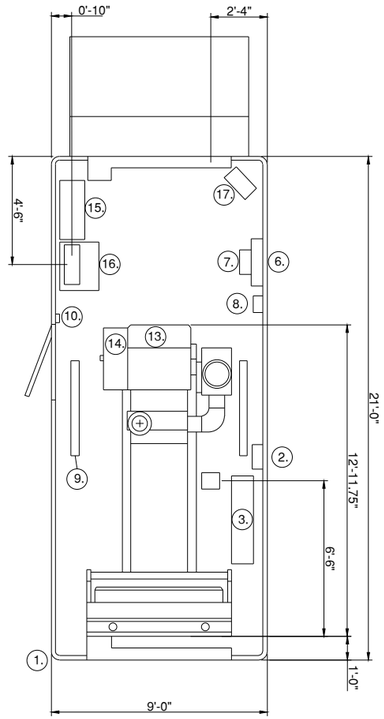
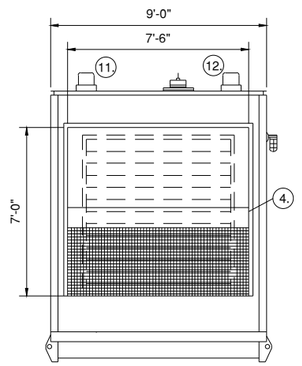


NEW ENCLOSURE PLAN VIEW

NOT TO SCALE

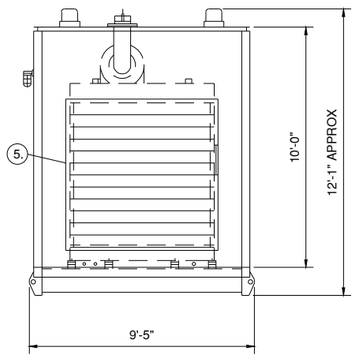
KEYED NOTES

1. ALUMINUM ENCLOSURE 108"W X 120"H X 252"L WITH FIBERGLASS INSULATION AND PERF. METAL LINER
2. BATTERY CHARGER
3. BATTERY RACKS AND CABLES
4. MOTORIZED AIR INTAKE LOUVER
5. MOTORIZED AIR DISCHARGE LOUVER
6. 120 / 208 VOLT, SINGLE PHASE, 60 AMP LOAD CENTER
7. 15KVA, 480V TO 120/208V STEPDOWN TRANSFORMER
8. 30 AMP, 600VAC CIRCUIT BREAKER DISCONNECT SWITCH
9. LED LIGHTS WITH WALL SWITCH
10. DUPLEX RECEPTACLE
11. RED ROTATING BEACON LIGHT (ENGINE FAULT)
12. AMBER ROTATING BEACON LIGHT (ENGINE RUN)
13. GENERATOR MOUNTED CONTROL PANEL
14. 600 AMP, THREE POLE CIRCUIT BREAKER
15. 600 AMP, 3-POLE DISCONNECT, SERVICE ENTRANCE RATED 480V UTILITY CIRCUIT BREAKER
16. AUTOMATIC TRANSFER SWITCH
17. SPACE HEATER WITH THERMOSTAT



NEW BACK ENCLOSURE VIEW

NOT TO SCALE



NEW FRONT ENCLOSURE VIEW

NOT TO SCALE

NOTES

1. CONTRACTOR SHALL VERIFY THE LOCATION OF FROST LEGS AND ELECTRICAL DUCTS PRIOR TO REMOVAL OF EXISTING GENERATOR.
2. EXISTING ELECTRICAL DUCTS SHALL REMAIN AND SHALL BE PROTECTED FROM ANY DAMAGE DURING CONSTRUCTION. CONTRACTOR TO VERIFY AND ALIGN EXISTING CONDUIT STUBS WITH NEW EQUIPMENT.
3. CONTRACTOR SHALL VERIFY FOUNDATION AND PAD SIZE AND DETAILS BEFORE SUBMITTING A SHOP DRAWING.

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GENERATOR DETAILS

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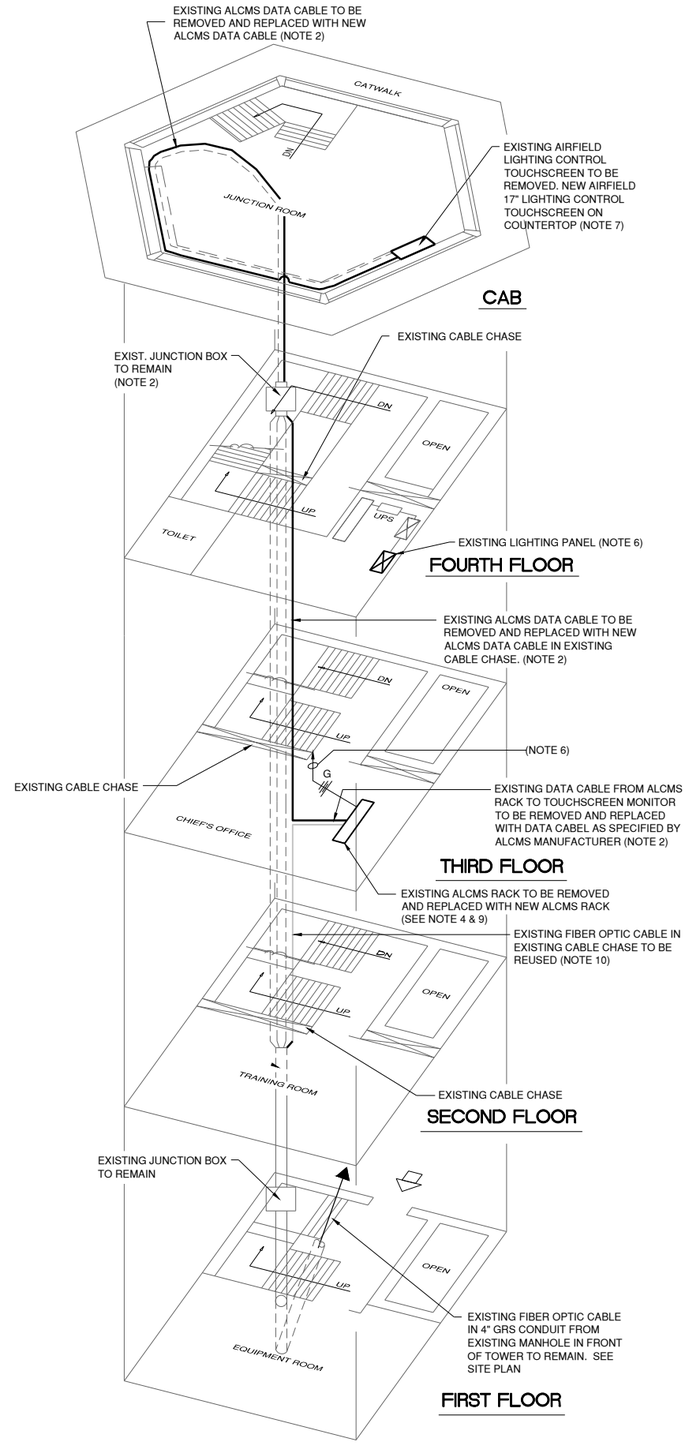
NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK IN THE EXISTING CONTROL TOWER WITH THE FAA AIRWAYS FACILITIES TECH-OPS AND THE RESIDENT ENGINEER. CONTRACTOR SHALL GIVE A MINIMUM OF 14 DAYS NOTICE PRIOR TO BEGINNING WORK IN THE EXISTING TOWER.
2. CONTRACTOR SHALL REMOVE EXISTING ALCMS DATA CABLES IN TOWER FOR EXISTING AIRFIELD LIGHTING CONTROLS ONCE NEW AIRFIELD LIGHTING CONTROL SYSTEM IN TOWER IS COMPLETELY OPERATIONAL. CONTRACTOR SHALL ROUTE PROPOSED ALCMS DATA CABLES IN EXISTING CABLE CHASE.
3. CONTRACTOR SHALL REMOVE EXISTING DATA CABLES AND FLEXIBLE CONDUIT FROM TOWER CAB AFTER NEW ALCMS HAS BEEN INSTALLED AND OPERATIONAL.
4. NEW ALCMS CABINET SHALL BE SUPPLIED WITH WHEELS. NEW ALCMS SHALL BE OPERATIONAL AND TESTED PRIOR TO THE REMOVAL OF EXISTING ALCMS CABINET. PROVIDE SUFFICIENT CABLE SLACK REQUIRED FOR ALCMS CABINET TO BE OPERATIONAL.
5. EXISTING ALCMS, ALCMS COMPONENTS AND CABLES SHALL BE COMPLETELY REMOVED AND DISPOSED OFF OF SITE.
6. INSTALL 4#12 THWN, 1#12 GND., IN 1" CONDUIT TO EXISTING POWER PANEL "B-1". INSTALL (2) 20A, 1-POLE CIRCUIT BREAKER INSIDE POWER PANEL "B-1". COORDINATE ALL SHUTDOWNS AND WORK WITH FAA. FAA WILL PERFORM RISK MANAGEMENT AND CONTRACTOR SHALL COMPLY WITH ALL FAA REQUIREMENTS FOR THIS WORK AT NO ADDITIONAL COST TO THE CONTRACT.
7. NEW ALCMS 17" TOUCH SCREEN SHALL BE LOCATED ON COUNTERTOP. PROVIDE UPS INSTALLED UNDER CABINET AND UTILIZE EXISTING 120VAC CIRCUIT.
8. CONTRACTOR SHALL PROVIDE DETAILED SEQUENCE OF CONSTRUCTION, POWER OUTAGE DURATION AND SCHEDULE MINIMUM (45) DAYS IN ADVANCE TO FAA FOR REVIEW AND APPROVAL. CONSTRUCTION ACTIVITY DETAILS SHALL ALSO INCLUDE NOISE, DUST, AIR QUALITY AND VIBRATION IMPACT TO ATCT OPERATIONS.
9. REMOVAL AND INSTALLATION OF ALCMS WILL REQUIRE TRANSPORTATION OF ALCMS ENCLOSURE TO/FROM THIRD FLOOR VIA STAIRS. USE OF STAIRS FOR TRANSPORTATION SHALL BE PERMITTED ON AFTER ATCT HOURS. COST OF NIGHT TIME LABOR SHALL BE INCLUDED IN THE CONTRACT.
10. TERMINATE EXISTING FIBER OPTIC CABLE AT NEW ALCMS ENCLOSURE PATCH PANEL. USE SPARE FIBERS TO KEEP EXISTING AND NEW ALCMS OPERATIONAL SIMULTANEOUSLY DURING TESTING OF NEW ALCMS.



ATCT MODIFICATIONS

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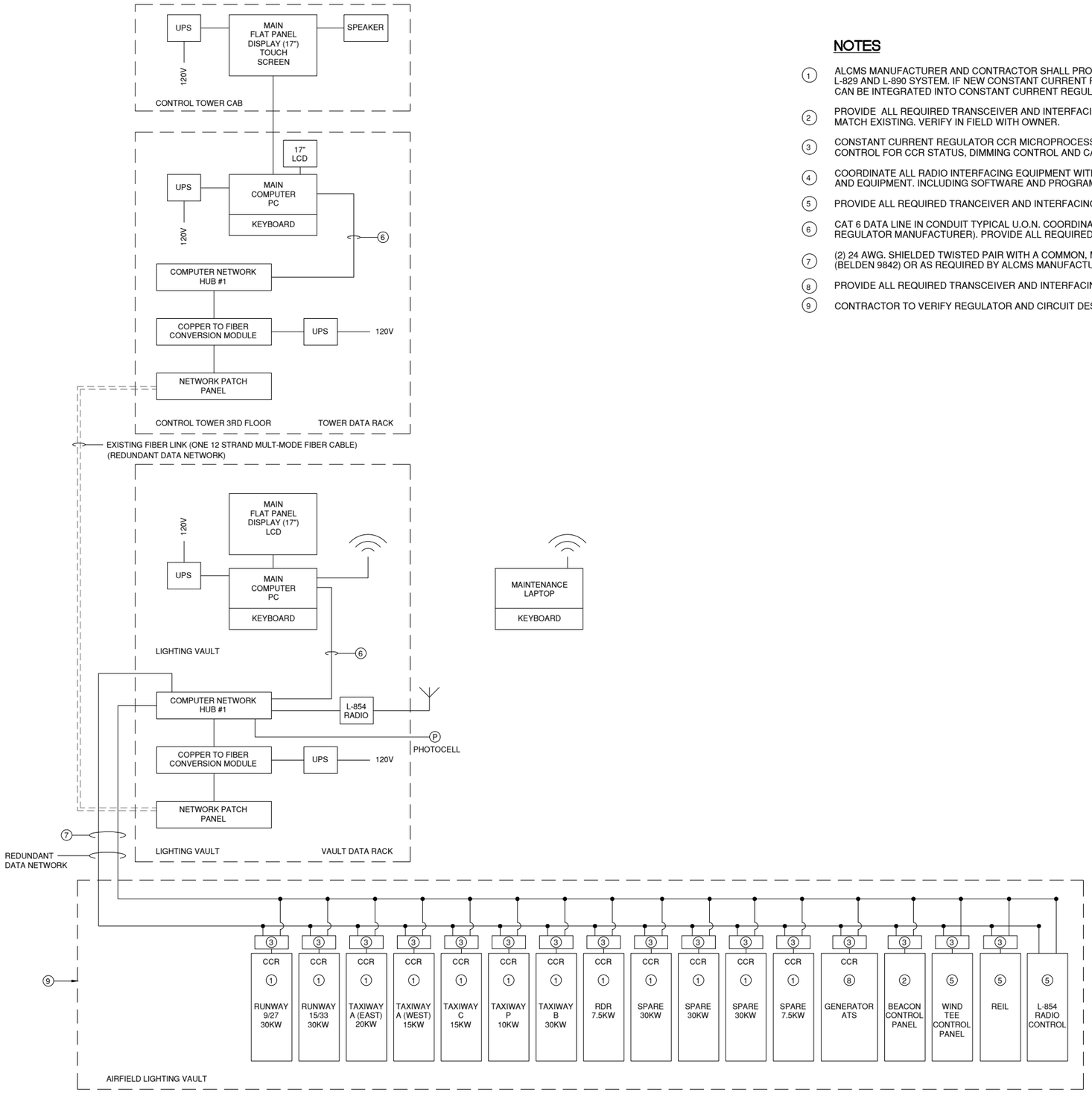

AIRFIELD LIGHTING AND EQUIPMENT CONTROL DIAGRAM

NOT TO SCALE

NOTES

1. ALCMS MANUFACTURER AND CONTRACTOR SHALL PROVIDE ALL REQUIRED CT'S AND INTERFACE MODULES FOR COMPLETE L-829 AND L-890 SYSTEM. IF NEW CONSTANT CURRENT REGULATORS AND ALCMS SHARE SAME MANUFACTURER THAN DCMU CAN BE INTEGRATED INTO CONSTANT CURRENT REGULATOR. OTHERWISE DCMU SHALL BE INSTALLED SEPARATELY.
2. PROVIDE ALL REQUIRED TRANSCEIVER AND INTERFACING PANEL FOR REMOTE BEACON CONTROL EQUIPMENT SHALL MATCH EXISTING. VERIFY IN FIELD WITH OWNER.
3. CONSTANT CURRENT REGULATOR CCR MICROPROCESSOR BASED CONTROL/MONITOR PANEL WITH REMOTE AND LOCAL CONTROL FOR CCR STATUS, DIMMING CONTROL AND CABLE INSULATION MONITOR.
4. COORDINATE ALL RADIO INTERFACING EQUIPMENT WITH MANUFACTURER. PROVIDE ALL NETWORK INTERFACING HARDWARE AND EQUIPMENT. INCLUDING SOFTWARE AND PROGRAMMING.
5. PROVIDE ALL REQUIRED TRANCEIVER AND INTERFACING PANEL FOR REIL/WIDCONE CONTROL PANEL.
6. CAT 6 DATA LINE IN CONDUIT TYPICAL U.O.N. COORDINATE ALL WORK WITH ALCMS MANUFACTURER (CONSTANT CURRENT REGULATOR MANUFACTURER). PROVIDE ALL REQUIRED DATA CONNECTION LINKS.
7. (2) 24 AWG. SHIELDED TWISTED PAIR WITH A COMMON, MEETING EIARS-485 APPLICATIONS (BELDEN 9842) OR AS REQUIRED BY ALCMS MANUFACTURER.
8. PROVIDE ALL REQUIRED TRANSCEIVER AND INTERFACING PANEL FOR GENERATOR/ATS CONTROL AND MONITORING
9. CONTRACTOR TO VERIFY REGULATOR AND CIRCUIT DESIGNATIONS IN FIELD PRIOR TO PROGRAMMING OF ALCMS.

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ALCMS BLOCK DIAGRAM

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