

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES
AR106502	APRON LIGHT POLE W/DOUBLE FIXTURE	EA.	3	
AR108086	1/C #6 XLP-USE	L.F.	2,742	
AR108158	1/C #8 5KV UG CABLE IN UD	L.F.	2,341	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1	
AR110014	4" DIRECTIONAL BORE	L.F.	80	
AR110202	2" PVC DUCT, DIRECT BURY	L.F.	441	
AR125410	MITL, STAKE MOUNTED	EA.	33	
AR125415	MITL, BASE MOUNTED	EA.	4	
AR125446	TAXI GUIDANCE SIGN, 6 CHARACTER	EA.	1	
AR125901	REMOVE STAKE MOUNTED LIGHT	EA.	25	
AR125902	REMOVE BASE MOUNTED LIGHT	EA.	5	
AR125904	REMOVE TAXI GUIDANCE SIGN	EA.	1	
AR150510	ENGINEER'S FIELD OFFICE	L.S.	1	
AR800487	TAXIWAY LIGHTING CABLE	L.F.	2,745	

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DATE	REVISION	BY

TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS
 I.L. PROJ.: SFY-3932 A.I.P. PROJ.: 3-17-091-B15

Hanson Project No. 09A0033D_0800	LAYOUT	CAH	03/24/09
Filename R-002FLP.DWG	DRAWN	BAK	03/24/09
Scale NOT TO SCALE	REVIEWED	CAH	03/24/09
Date 08/14/09			



REPLACE MITL SYS.,
 INSTALL APRON LTS
 SUMMARY OF QUANTITIES
 AND
 INDEX TO SHEETS

SCOPE OF WORK

THIS PROJECT CONSISTS OF THE REMOVAL AND THE REPLACEMENT OF THE MITL SYSTEM ON TAXIWAY "A" AND APRON. ASSOCIATED WORK WILL INCLUDE INSTALLATION OF APRON FLOOD LIGHTS, INSTALLATION OF CABLE AND VAULT WORK.

AIRPORT SECURITY NOTE

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL CLOSE THE EXISTING GATE IN THE HAUL ROUTE AT THE END OF EACH WORKING DAY.

UTILITY NOTE

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND AGENCIES WHICH HAVE LINES OR CONDUITS IN THE PROPOSED WORK AREA. ALL LINES AND CONDUITS SHALL BE LOCATED AND IDENTIFIED FOR DEPTH BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR WILL CALL J.U.L.I.E. (1-800-892-0123) TO ACCOMPLISH THE ABOVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL UNDERGROUND NON-JULIE UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UNDERGROUND IMPROVEMENTS WILL BE LOCATED AT THE CONTRACTOR'S OWN EXPENSE PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

HEIGHT OF CONSTRUCTION EQUIPMENT

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 25 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A CONCRETE TRUCK.

HAUL ROUTE AND VEHICLE PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING AREA AS SHOWN ON THIS SHEET. THE PROPOSED PARKING AREA WILL BE 200' X 200'. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE AND PARKING AREA THROUGHOUT THE COURSE OF THE PROJECT. ANY AREAS DAMAGED OUTSIDE OF THESE AREAS WILL BE REPAIRED BY THE CONTRACTOR AND AT THE CONTRACTOR'S OWN EXPENSE. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL GRADE, FERTILIZE, SEED AND MULCH THE PARKING AREA AS NEEDED TO RESTORE IT TO ITS' ORIGINAL STATE. RESTORATION OF THE HAUL ROUTE AND PARKING AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

CONTRACTOR RESPONSIBILITIES

THE CONTRACTOR'S EQUIPMENT PARKING AND STORAGE AREA WILL BE AS SHOWN ON THIS SHEET. THE CONTRACTOR'S EMPLOYEES WILL PARK THEIR VEHICLES IN THIS AREA. ONLY CONTRACTOR VEHICLES WILL BE ALLOWED OUTSIDE THIS AREA.

THE CONTRACTOR AND HIS EMPLOYEES WILL BE RESTRICTED TO THE WORK AREA AND ALL OTHER AREAS OF THE AIRPORT ARE "OFF LIMITS" TO THEM.

ALL WORK PERFORMED SHALL BE DONE IN A ORDERLY AND EFFECTIVE MANNER TO MINIMIZE RUNWAY CLOSURE.







NO TRENCHES OR HOLES WILL REMAIN OPEN OVERNIGHT.

NO RUNWAY SHALL BE CLOSED OVERNIGHT.

BARRICADES AND TRAFFIC CONES

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT MANAGER. THE BARRICADES WILL BE EQUIPPED WITH RED FLASHING OR RED STEADY-BURN LIGHTS AND 20" SQUARE ORANGE FLAGS. THE BARRICADES, THEIR MAINTENANCE, PLACEMENT AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

LEGEND

-  EXISTING IMPROVEMENTS
-  PROPOSED IMPROVEMENTS
-  EXISTING BUILDINGS
-  PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA
-  PROPOSED BENCHMARK
-  PROPOSED BARRICADES OR TRAFFIC CONES

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 THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE 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. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

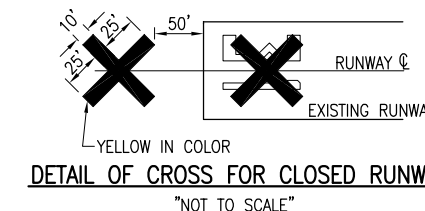
CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

CERTIFIED PAYROLLS

THE RESIDENT ENGINEER CANNOT FORWARD CONSTRUCTION REPORTS TO THE ILLINOIS DIVISION OF AERONAUTICS FOR PROCESSING UNTIL ALL CERTIFIED PAYROLLS FOR THE PERIOD HAVE BEEN RECEIVED.

MATERIAL CERTIFICATION

COMPLETED WORK CANNOT BE PLACED ON A CONSTRUCTION REPORT UNTIL ALL MATERIAL CERTIFICATIONS FOR THAT PAY ITEM HAVE BEEN RECEIVED, REVIEWED AND ACCEPTED BY THE RESIDENT ENGINEER.



NOTE:

COST OF CONSTRUCTING, PLACING, MAINTAINING AND REMOVING CROSSES WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE CROSSES WILL BE YELLOW IN COLOR AND SHALL BE MADE OF A SUITABLE MATERIAL AS APPROVED BY THE AIRPORT MANAGER. THE CROSSES WILL BE PLACED OVER THE NUMERALS AND SECURED IN A MANNER APPROVED BY THE MANAGER. THE PROPOSED CROSSES WILL BE PLACED EACH DAY THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PLACEMENT AND REMOVAL OF THE CROSSES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

J.U.L.I.E. INFORMATION

COUNTY CARROLL
 CITY SAVANNA
 TOWNSHIP SAVANNA
 SECTION NO. 25
 ADDRESS TRI-TOWNSHIP AIRPORT
 8049 IL. ROUTE 84S
 SAVANNA, ILLINOIS 61074

CRITICAL POINT DATA

LATITUDE: 42° 02' 48.80498"
 LONGITUDE: 90° 06' 37.766"
 ELEVATION: 613.38 M.S.L.

PROPOSED SAFETY PLAN

GENERAL - THE TRI-TOWNSHIP AIRPORT IS COMPRISED OF ONE RUNWAY. THE PROPOSED CONSTRUCTION WILL NECESSITATE CLOSING THE RUNWAY. ANY TIME THE CONTRACTOR IS WORKING WITHIN 200' OF THE RUNWAY CENTERLINE THE RUNWAY WILL BE CLOSED. THE RUNWAY WILL BE CLOSED ONLY DURING THE CONSTRUCTION DAY. AT THE END OF EACH CONSTRUCTION DAY THE CONTRACTOR WILL SMOOTH GRADE ALL AREAS WITHIN THE SAFETY AREA TO THE SATISFACTION OF THE RESIDENT ENGINEER AND RE-OPEN THE RUNWAY. ALL WORK INCLUDED IN OPENING AND CLOSING THE RUNWAY WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

IDENTIFICATION - WHEN THE CONTRACTORS VEHICLES AND EQUIPMENT ARE ON THE AIRPORT THEY SHALL BE PROPERLY MARKED WITH THREE (3') FOOT SQUARE CHECKERED FLAGS (INTERNATIONAL ORANGE AND WHITE). THE CONTRACTOR WILL ALSO PROVIDE WORKERS WITH SOME TYPE OF TAG OR GARMENT TO IDENTIFY THE PERSON AS BEING PART OF THE CONSTRUCTION CREW.

RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (122.70 MHz.) WITH THE AIRPORT UNICOM. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE TRI-TOWNSHIP AIRPORT AND ENABLE THE AIRPORT TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTIC EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

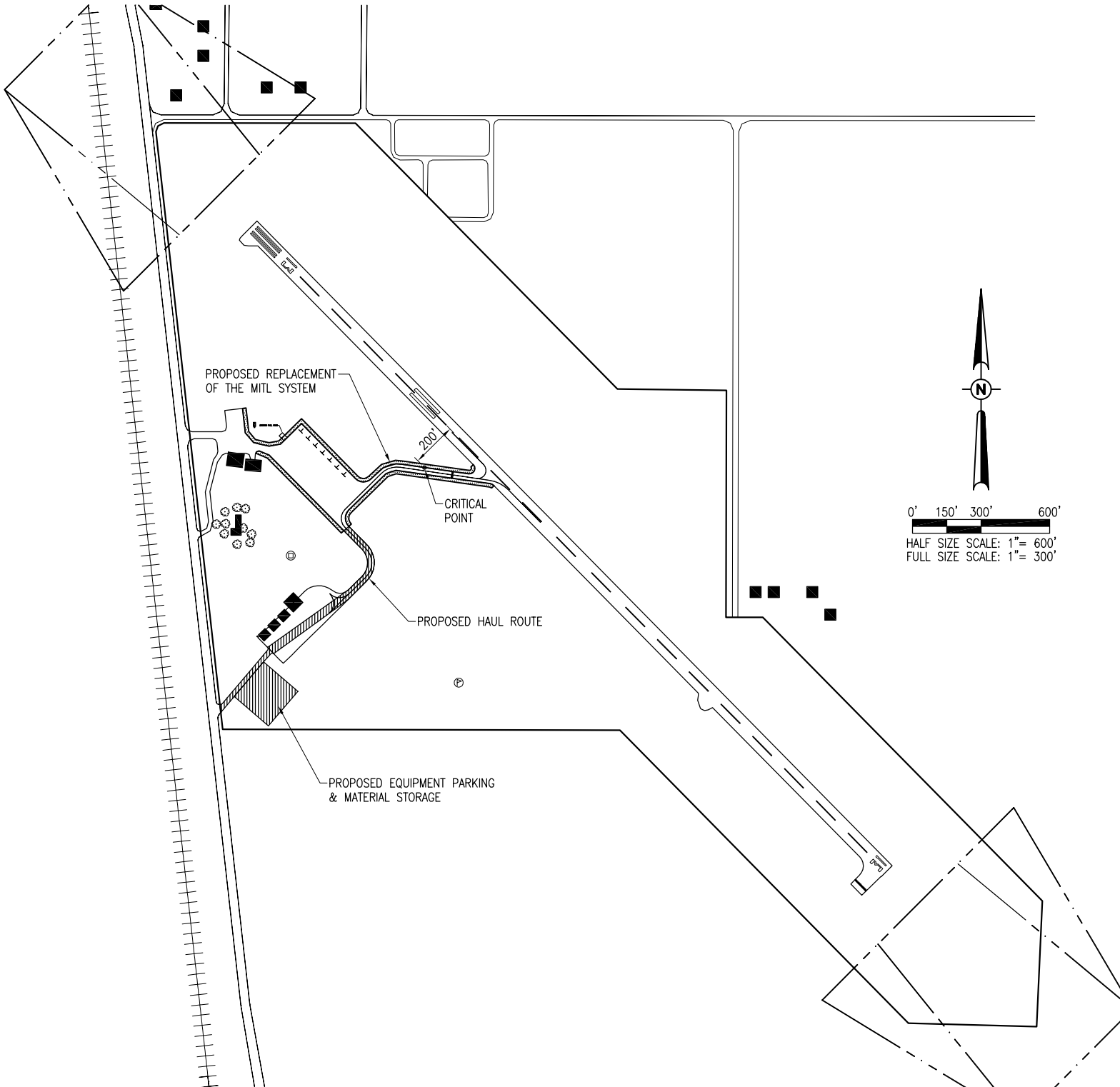
150-ENGINEER'S FIELD OFFICE NOTES

THE CONTRACTOR WILL FURNISH A CELL PHONE TO THE RESIDENT ENGINEER FOR HIS EXCLUSIVE USE FOR THE DURATION OF THIS PROJECT. THE RESIDENT ENGINEER WILL USE THIS PHONE FOR PROJECT BUSINESS ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CHARGES ASSOCIATED WITH THIS CELL PHONE.

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE PAID FOR UNDER ITEMS:
 AR150510 ENGINEER'S FIELD OFFICE ____ 1 L.S.

EROSION CONTROL

THIS PROJECT WILL DISTURB LESS THAN 1 ACRE OF LAND, THEREFORE NO N.P.D.E.S. PERMIT WILL BE REQUIRED.




REVISION	DATE	BY

TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

AL.P. PROJ.: 3-17-0091-B15
 IL. PROJ.: SFY-3932

Item	Date	By
LAYOUT	03/24/09	CAH
DRAWN	03/24/09	BAK
REVIEWED	03/24/09	CAH



Hanson Professional Services Inc.
 1525 South Sixth Street
 Springfield, Illinois 62703-2886
 Offices Nationwide

REPLACE MITL SYS.,
 INSTALL APRON LTS

PROPOSED
 SAFETY
 PLAN

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 SEP 21, 2009 11:28 AM HAGLO00382

LIGHT REMOVAL NOTES

ALL EXISTING TAXIWAY LIGHTS AND TAXI GUIDANCE SIGNS THAT ARE DESIGNATED FOR REMOVAL WILL BE REMOVED. THE LIGHTS AND THEIR ISOLATING TRANSFORMER WILL BE TURNED OVER TO THE AIRPORT MANAGER. THE LIGHT STAKES/BASES WILL BE REMOVED AND DISPOSED OF OFF THE AIRPORT SITE.

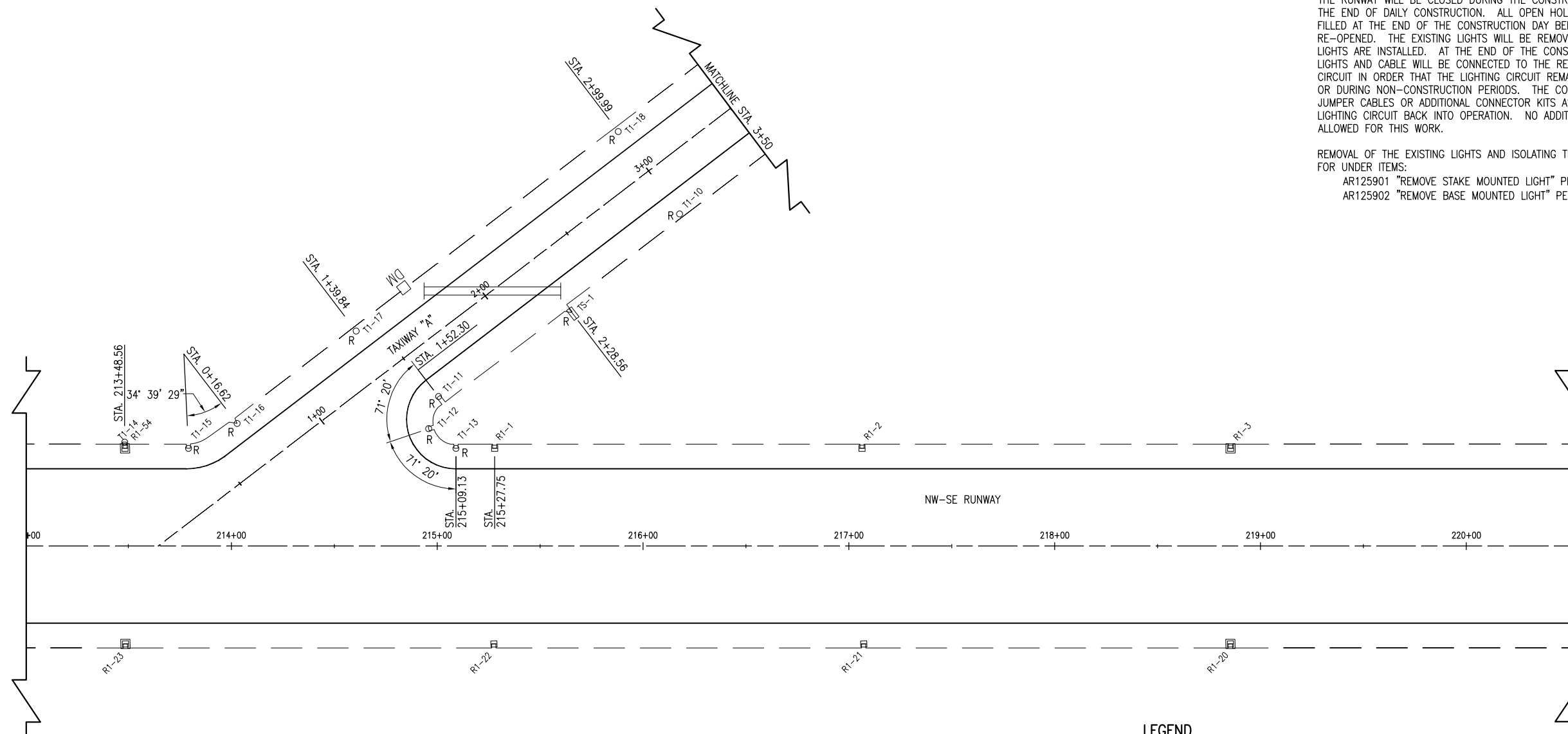
THE HOLE LEFT FROM THE LIGHT REMOVAL WILL BE FILLED IN WITH EARTH MATERIAL AND COMPACTED TO PREVENT FUTURE SETTLEMENT. THE EARTH MATERIAL USED TO FILL THE HOLES WILL BE FURNISHED BY THE CONTRACTOR FROM AN OFF AIRPORT SITE. THE DISTURBED AREAS WILL BE FERTILIZED AND SEEDED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE EXISTING RUNWAY CABLES WILL BE ABANDONED IN PLACE UNLESS IT CONFLICTS WITH THE INSTALLATION OF A PROPOSED LIGHT OR CABLE, THEN IT WILL BE REMOVED AT NO ADDITIONAL COST TO THE CONTRACT.

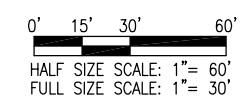
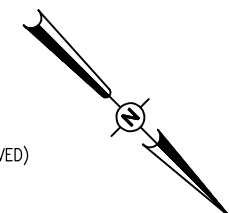
THE RUNWAY WILL BE CLOSED DURING THE CONSTRUCTION DAY AND OPENED AT THE END OF DAILY CONSTRUCTION. ALL OPEN HOLES AND TRENCHES WILL BE FILLED AT THE END OF THE CONSTRUCTION DAY BEFORE THE RUNWAY IS RE-OPENED. THE EXISTING LIGHTS WILL BE REMOVED AS NEW CABLE AND LIGHTS ARE INSTALLED. AT THE END OF THE CONSTRUCTION DAY THE NEW LIGHTS AND CABLE WILL BE CONNECTED TO THE REMAINING EXISTING LIGHTING CIRCUIT IN ORDER THAT THE LIGHTING CIRCUIT REMAIN OPERATIONAL EACH NIGHT OR DURING NON-CONSTRUCTION PERIODS. THE CONTRACTOR WILL FURNISH JUMPER CABLES OR ADDITIONAL CONNECTOR KITS AS REQUIRED TO PLACE THE LIGHTING CIRCUIT BACK INTO OPERATION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THIS WORK.

REMOVAL OF THE EXISTING LIGHTS AND ISOLATING TRANSFORMERS WILL BE PAID FOR UNDER ITEMS:

- AR125901 "REMOVE STAKE MOUNTED LIGHT" PER EACH AND
- AR125902 "REMOVE BASE MOUNTED LIGHT" PER EACH.



- LEGEND**
- EXISTING PAVEMENT
 - EXISTING ELECTRICAL DUCT
 - EXISTING ELECTRICAL CABLES (TO REMAIN IN PLACE)
 - EXISTING STAKE MOUNTED RUNWAY LIGHT
 - EXISTING BASE MOUNTED RUNWAY LIGHT
 - EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
 - EXISTING TAXI GUIDANCE SIGN (TO BE REMOVED)
 - EXISTING DUCT MARKER



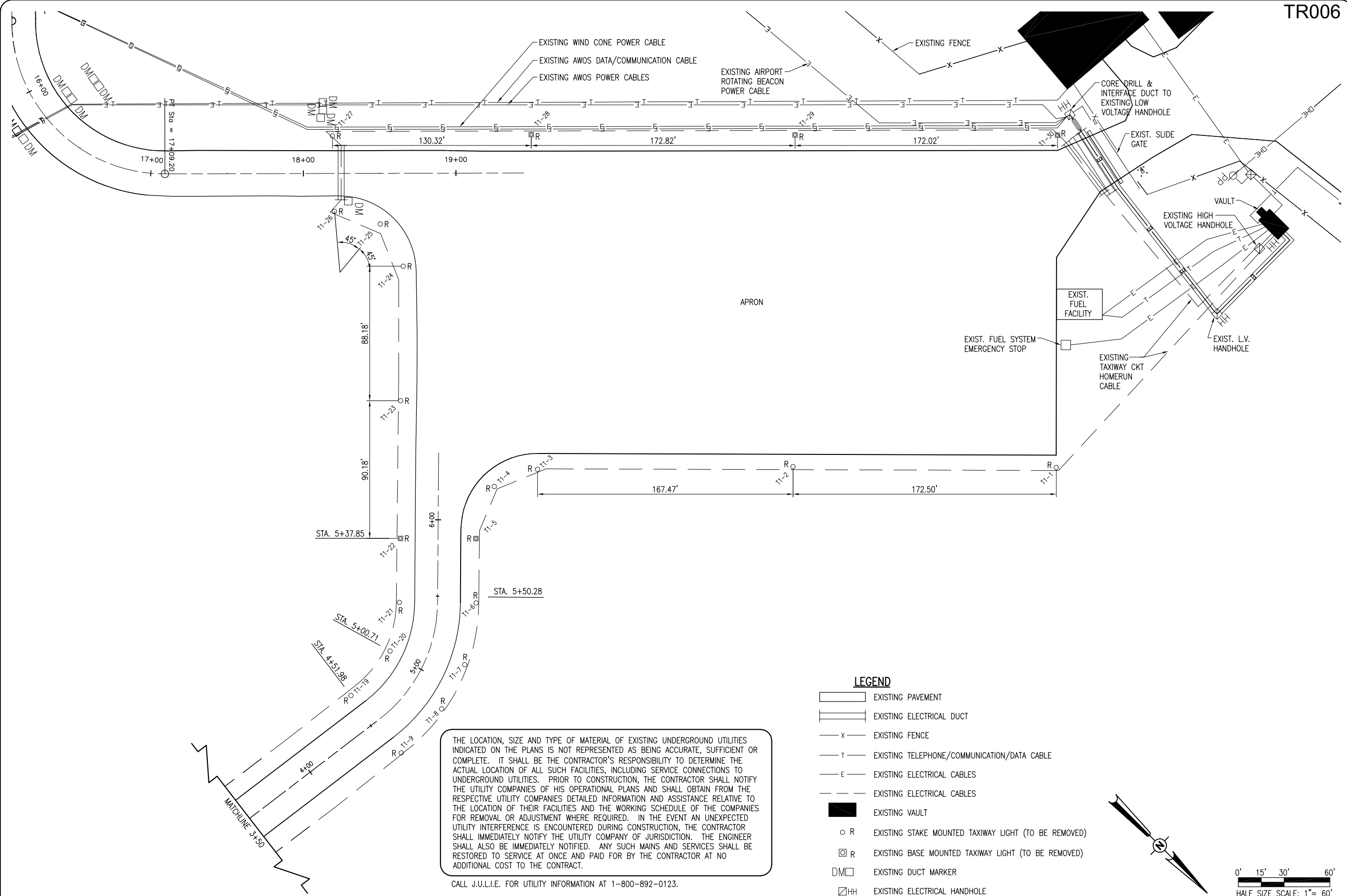
DATE	REVISION	BY

TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

Hanson Project No. 09A0033D_0800	FILENAME R-141ELE.DWG	SCALE 1" = 30'	DATE 08/24/09
LAYOUT	CAH	03/24/09	03/24/09
DRAWN	BAK	03/24/09	03/24/09
REVIEWED	CAH	03/24/09	03/24/09



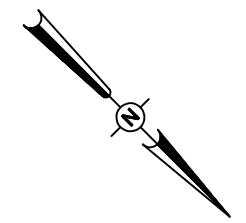
REPLACE MITL SYS.,
 INSTALL APRON LTS
 EXISTING
 ELECTRICAL PLAN
 FOR TAXIWAY "A"



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 THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE 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. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND 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. FOR UTILITY INFORMATION AT 1-800-892-0123.

- LEGEND**
- EXISTING PAVEMENT
 - EXISTING ELECTRICAL DUCT
 - EXISTING FENCE
 - EXISTING TELEPHONE/COMMUNICATION/DATA CABLE
 - EXISTING ELECTRICAL CABLES
 - EXISTING ELECTRICAL CABLES
 - EXISTING VAULT
 - EXISTING STAKE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
 - EXISTING BASE MOUNTED TAXIWAY LIGHT (TO BE REMOVED)
 - EXISTING DUCT MARKER
 - EXISTING ELECTRICAL HANDHOLE



0' 15' 30' 60'
 HALF SIZE SCALE: 1" = 60'
 FULL SIZE SCALE: 1" = 30'

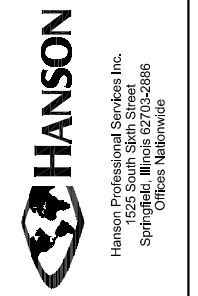
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 I:\AIRPORTS\SAVANNA\09A0033\AIRPORT\SHETS\R-141ELE.DWG -- APRON

DATE	REVISION	BY

TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

IL. PROJ.: SFY-3932 A.I.P. PROJ.: 3-17-091-B15

Hanson Project No. 09A0033D_0800	
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Scale	1" = 30'
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LAYOUT	CAH 03/24/09
DRAWN	BAK 03/24/09
REVIEWED	CAH 03/24/09



REPLACE MITL SYS.,
 INSTALL APRON LTS
 EXISTING
 ELECTRICAL PLAN
 FOR TAXIWAY "A" AND APRON

ELECTRICAL NOTES

CABLES:
ALL PROPOSED CABLE WILL BE LOCATED 14' FROM THE PAVEMENT EDGE UNLESS OTHERWISE STATED BY THE RESIDENT ENGINEER.

ALL PROPOSED CABLE WILL BE PLACED 18" BELOW THE PROPOSED GRADE.

THE PROPOSED ELECTRICAL CABLE WILL BE NO. 8, 5000 V., 1/C, TYPE C UNDERGROUND CABLE IN UNIT DUCT.

IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE PROPOSED CABLE CROSSES AN EXISTING CABLE, THE PROPOSED CABLE WILL BE HAND DUG INTO PLACE. AT ALL OTHER LOCATIONS, THE PROPOSED CABLE IN UNIT DUCT MAY BE EITHER TRENCHED OR PLOWED INTO PLACE. THE TRENCHING AND/OR PLOWING WILL BE CONSIDERED INCIDENTAL TO THE PROPOSED CABLE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL CABLE SHOWN BY A (-----) DASHED LINE ARE EXISTING CIRCUITS THAT ARE NOT PART OF THIS CONTRACT. THE LOCATION OF THESE CABLES ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND IDENTIFY THESE EXISTING CIRCUITS PRIOR TO THE INSTALLATION OF THE PROPOSED CABLE. ANY DAMAGE TO THE EXISTING CIRCUITS SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE RESIDENT ENGINEER AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

LIGHTS:
ALL PROPOSED TAXIWAY LIGHTS WILL BE PLACED 10' FROM THE PAVEMENT EDGE UNLESS SHOWN OTHERWISE.

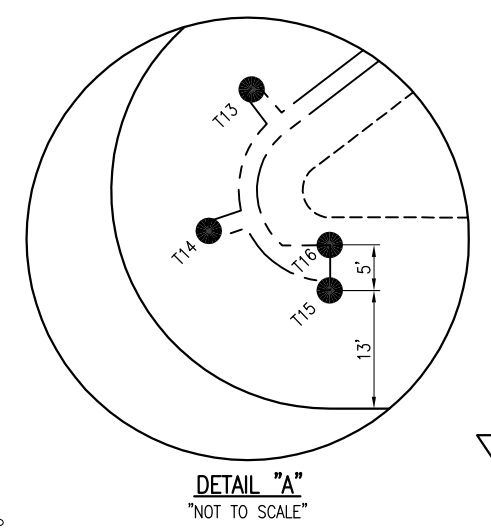
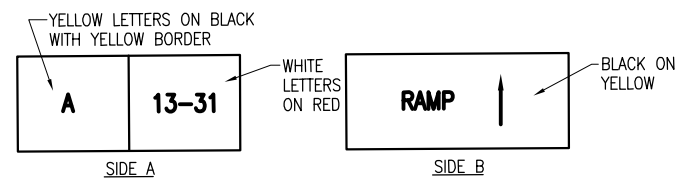
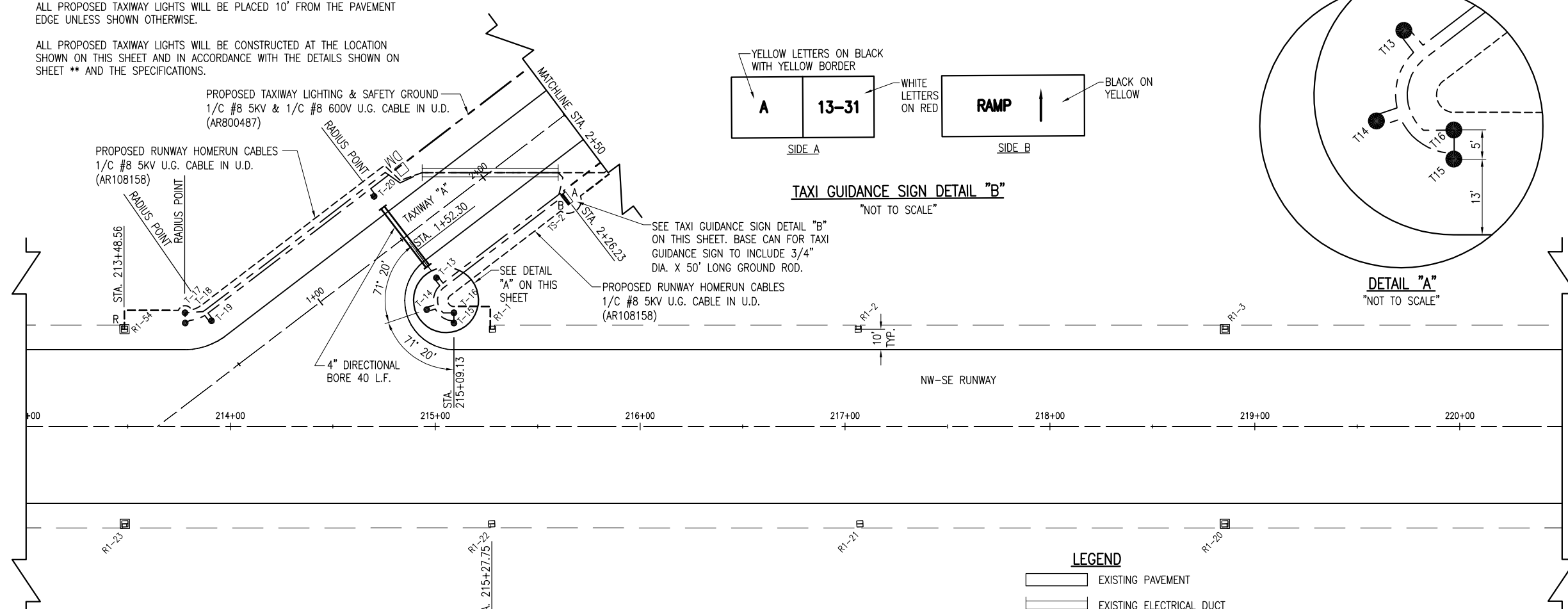
ALL PROPOSED TAXIWAY LIGHTS WILL BE CONSTRUCTED AT THE LOCATION SHOWN ON THIS SHEET AND IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET ** AND THE SPECIFICATIONS.

ALL PROPOSED TAXIWAY LIGHTS WILL USE 360° BLUE LENSES.

DURING CONSTRUCTION, THE EXISTING RUNWAY AND TAXIWAY LIGHTING CIRCUITS MAY BE INOPERABLE DURING THE DAY. HOWEVER, THE CIRCUIT WILL BE FUNCTIONING AT THE END OF THE CONSTRUCTION DAY. THE CONTRACTOR WILL DO WHATEVER IS NECESSARY TO HAVE THE CIRCUITS ACTIVE AT THE END OF THE CONSTRUCTION DAY. THE WORK WILL BE CONSIDERED AS PART OF THE LIGHTING INSTALLATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

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 THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE 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. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND 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. FOR UTILITY INFORMATION AT 1-800-892-0123.



TAXI GUIDANCE SIGN NOTES

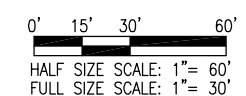
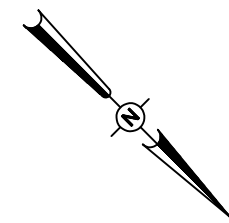
ALL PROPOSED TAXI GUIDANCE SIGNS WILL BE LOCATED AS SHOWN ON THIS SHEET.

ALL PROPOSED TAXI GUIDANCE SIGNS WILL BE LOCATED SUCH THAT THE CLOSEST SIDE OF THE SIGN IS 15' FROM THE PAVEMENT EDGE.

ALL SIGNS WILL READ AS DETAILED ON THIS SHEET.

THE PROPOSED TAXI GUIDANCE SIGN WILL BE PAID FOR UNDER THE FOLLOWING ITEM:
AR125446 TAXI GUIDANCE SIGN, 6 CHARACTER _____ PER EACH.

- LEGEND**
- EXISTING PAVEMENT
 - EXISTING ELECTRICAL DUCT
 - EXISTING ELECTRICAL CABLES (TO REMAIN IN PLACE)
 - PROPOSED 1/C #8 5KV & 1/C #8 600V U.G. CABLE IN U.D.
 - PROPOSED 1/C #8 5KV U.G. CABLE IN U.D.
 - PROPOSED STAKE MOUNTED TAXIWAY LIGHT
 - PROPOSED TAXI GUIDANCE SIGN
 - EXISTING STAKE MOUNTED RUNWAY LIGHT
 - EXISTING BASE MOUNTED RUNWAY LIGHT
 - EXISTING DUCT MARKER



SEP 21, 2009 11:32 AM HAGL000382 I:\AIRPORTS\SAVANNA\09A0033\AIRPORT\SHEETS\R-142ELE.DWG - STA 205+50 TO 220+50

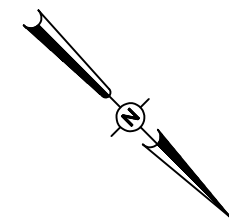
BY		REVISION		DATE										
<p>TRI-TOWNSHIP AIRPORT SAVANNA, CARROLL COUNTY ILLINOIS</p> <p>IL. PROJ.: SFY-3932 A.I.P. PROJ.: 3-17-091-B15</p>														
<p>Hanson Project No. 09A0033D_0800 Filename: R-142ELE.DWG Scale: 1" = 30' Date: 08/24/09</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>LAYOUT</td> <td>CAH</td> <td>03/24/09</td> </tr> <tr> <td>DRAWN</td> <td>BAK</td> <td>03/24/09</td> </tr> <tr> <td>REVIEWED</td> <td>CAH</td> <td>03/24/09</td> </tr> </table>						LAYOUT	CAH	03/24/09	DRAWN	BAK	03/24/09	REVIEWED	CAH	03/24/09
LAYOUT	CAH	03/24/09												
DRAWN	BAK	03/24/09												
REVIEWED	CAH	03/24/09												
<p>Hanson Professional Services Inc. 1525 South Sixth Street Springfield, Illinois 62703-2886 Offices Nationwide</p>														
<p>REPLACE MITL SYS., INSTALL APRON LTS</p> <p>PROPOSED ELECTRICAL PLAN FOR TAXIWAY "A"</p>														
<p>6</p> <p>of 20 sheets</p>														

DIRECTIONAL BORE NOTE
 THE CONTRACTOR WILL EXCAVATE THE EXISTING DUCTS IN ORDER TO INSTALL THE PROPOSED CABLE IN THEM. IF THE DUCTS HAVE COLLAPSED AND THE CONTRACTOR CANNOT INSTALL THE PROPOSED CABLE, THEN AND ONLY THEN WILL THE PROPOSED DIRECTIONAL BORE BE INSTALLED.

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 THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE 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. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND 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. FOR UTILITY INFORMATION AT 1-800-892-0123.

- LEGEND**
- EXISTING PAVEMENT
 - EXISTING ELECTRICAL DUCT
 - EXISTING FENCE
 - EXISTING TELEPHONE/COMMUNICATION/DATA CABLE
 - EXISTING ELECTRICAL CABLES
 - EXISTING ELECTRICAL CABLES
 - PROPOSED 1/C #8 5KV & 1/C #8 600V UG CABLE IN U.D.
 - PROPOSED 1/C #8 5KV UG CABLE IN UD
 - EXISTING VAULT
 - PROPOSED STAKE MOUNTED TAXIWAY LIGHT
 - PROPOSED BASE MOUNTED TAXIWAY LIGHT WITH 3/4" DIA. X 50' LONG GROUND ROD
 - EXISTING DUCT MARKER
 - EXISTING ELECTRICAL HANDHOLE



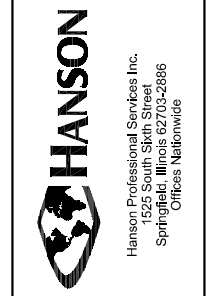
0' 15' 30' 60'
 HALF SIZE SCALE: 1" = 60'
 FULL SIZE SCALE: 1" = 30'

DATE	REVISION	BY

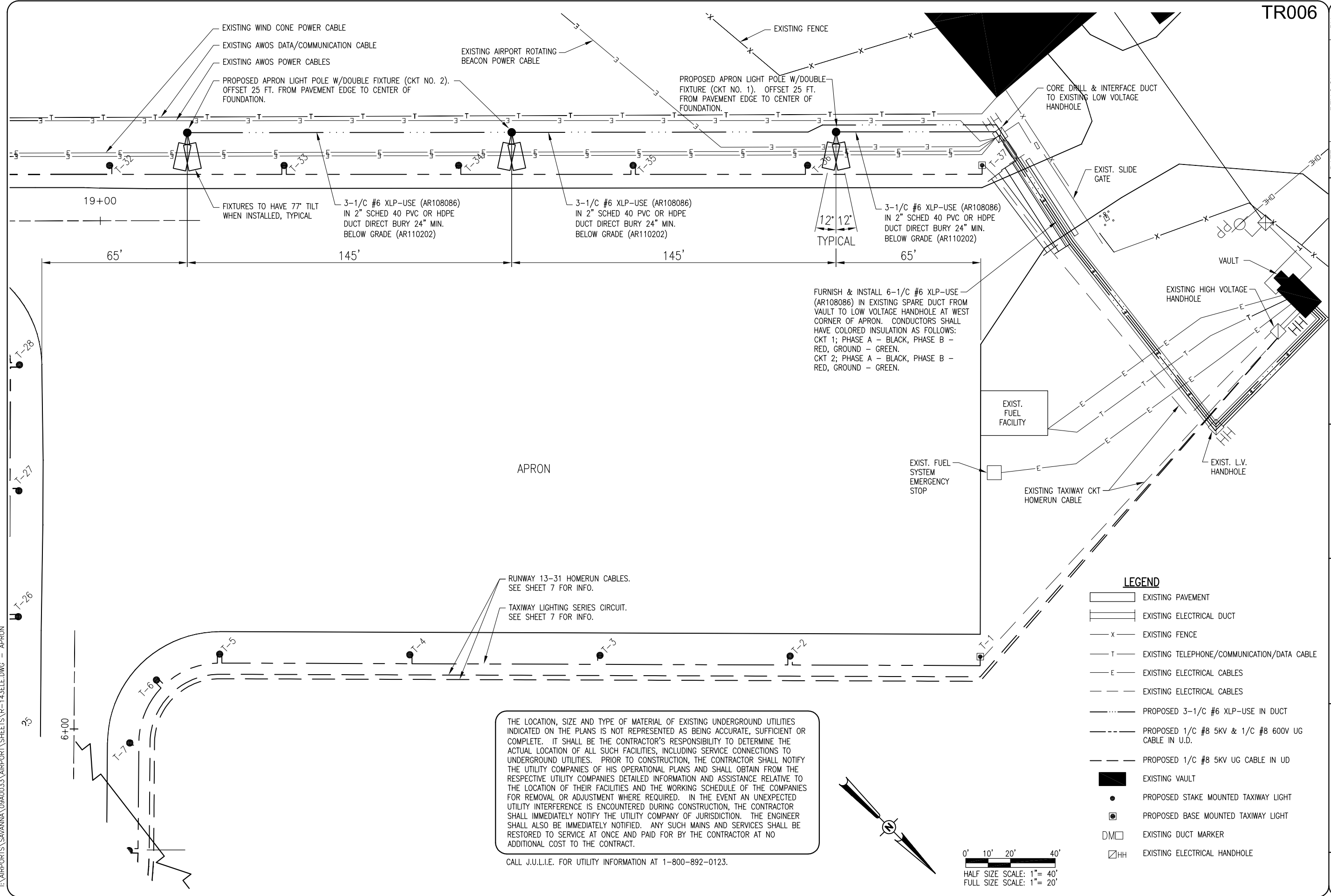
TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

IL. PROJ.: SFY-3932 A.I.P. PROJ.: 3-17-0091-B15

Hanson Project No. 09A0033D_0800	CAH	03/24/09
Filename: R-142ELE.DWG	BAK	03/24/09
Scale: 1" = 30'	CAH	03/24/09
Date: 08/14/09	REVIEWED	
LAYOUT		
DRAWN		



REPLACE MITL SYS.,
 INSTALL APRON LTS
 PROPOSED
 ELECTRICAL PLAN
 FOR TAXIWAY "A" AND APRON



EXISTING WIND CONE POWER CABLE
 EXISTING AWOS DATA/COMMUNICATION CABLE
 EXISTING AWOS POWER CABLES
 PROPOSED APRON LIGHT POLE W/DOUBLE FIXTURE (CKT NO. 2). OFFSET 25 FT. FROM PAVEMENT EDGE TO CENTER OF FOUNDATION.

EXISTING AIRPORT ROTATING BEACON POWER CABLE

PROPOSED APRON LIGHT POLE W/DOUBLE FIXTURE (CKT NO. 1). OFFSET 25 FT. FROM PAVEMENT EDGE TO CENTER OF FOUNDATION.

CORE DRILL & INTERFACE DUCT TO EXISTING LOW VOLTAGE HANDHOLE

19+00

FIXTURES TO HAVE 77° TILT WHEN INSTALLED, TYPICAL

3-1/C #6 XLP-USE (AR108086) IN 2" SCHED 40 PVC OR HDPE DUCT DIRECT BURY 24" MIN. BELOW GRADE (AR110202)

3-1/C #6 XLP-USE (AR108086) IN 2" SCHED 40 PVC OR HDPE DUCT DIRECT BURY 24" MIN. BELOW GRADE (AR110202)

TYPICAL 12° 12°

3-1/C #6 XLP-USE (AR108086) IN 2" SCHED 40 PVC OR HDPE DUCT DIRECT BURY 24" MIN. BELOW GRADE (AR110202)

FURNISH & INSTALL 6-1/C #6 XLP-USE (AR108086) IN EXISTING SPARE DUCT FROM VAULT TO LOW VOLTAGE HANDHOLE AT WEST CORNER OF APRON. CONDUCTORS SHALL HAVE COLORED INSULATION AS FOLLOWS:
 CKT 1; PHASE A - BLACK, PHASE B - RED, GROUND - GREEN.
 CKT 2; PHASE A - BLACK, PHASE B - RED, GROUND - GREEN.

APRON

EXIST. FUEL FACILITY

EXIST. FUEL SYSTEM EMERGENCY STOP

EXISTING TAXIWAY CKT HOMERUN CABLE

EXIST. L.V. HANDHOLE

EXISTING HIGH VOLTAGE HANDHOLE

VAULT

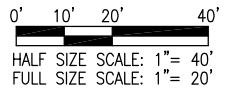
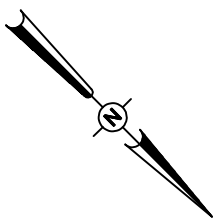
EXIST. SLIDE GATE

RUNWAY 13-31 HOMERUN CABLES. SEE SHEET 7 FOR INFO.

TAXIWAY LIGHTING SERIES CIRCUIT. SEE SHEET 7 FOR INFO.

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 THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE 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. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND 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. FOR UTILITY INFORMATION AT 1-800-892-0123.



LEGEND

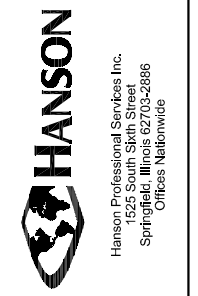
- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- x - EXISTING FENCE
- T - EXISTING TELEPHONE/COMMUNICATION/DATA CABLE
- E - EXISTING ELECTRICAL CABLES
- - - EXISTING ELECTRICAL CABLES
- PROPOSED 3-1/C #6 XLP-USE IN DUCT
- - - - - PROPOSED 1/C #8 5KV & 1/C #8 600V UG CABLE IN U.D.
- - - - - PROPOSED 1/C #8 5KV UG CABLE IN UD
- EXISTING VAULT
- PROPOSED STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- DM□ EXISTING DUCT MARKER
- HH EXISTING ELECTRICAL HANDHOLE

REVISION	DATE	BY

TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

IL. PROJ.: SFY-3932 A.I.P. PROJ.: 3-17-091-B15

Hanson Project No. 09A0033D_0800	LAYOUT	PUG/KNL	08/11/09
Filename: R-143ELE.DWG	DRAWN	MV	08/11/09
Scale: 1" = 20'	REVIEWED	CAH	08/11/09
Date: 08/14/09			



REPLACE MITL SYS.,
 INSTALL APRON LTS

PROPOSED
 APRON FLOOD LIGHT
 LAYOUT PLAN

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LIGHTING NOTES

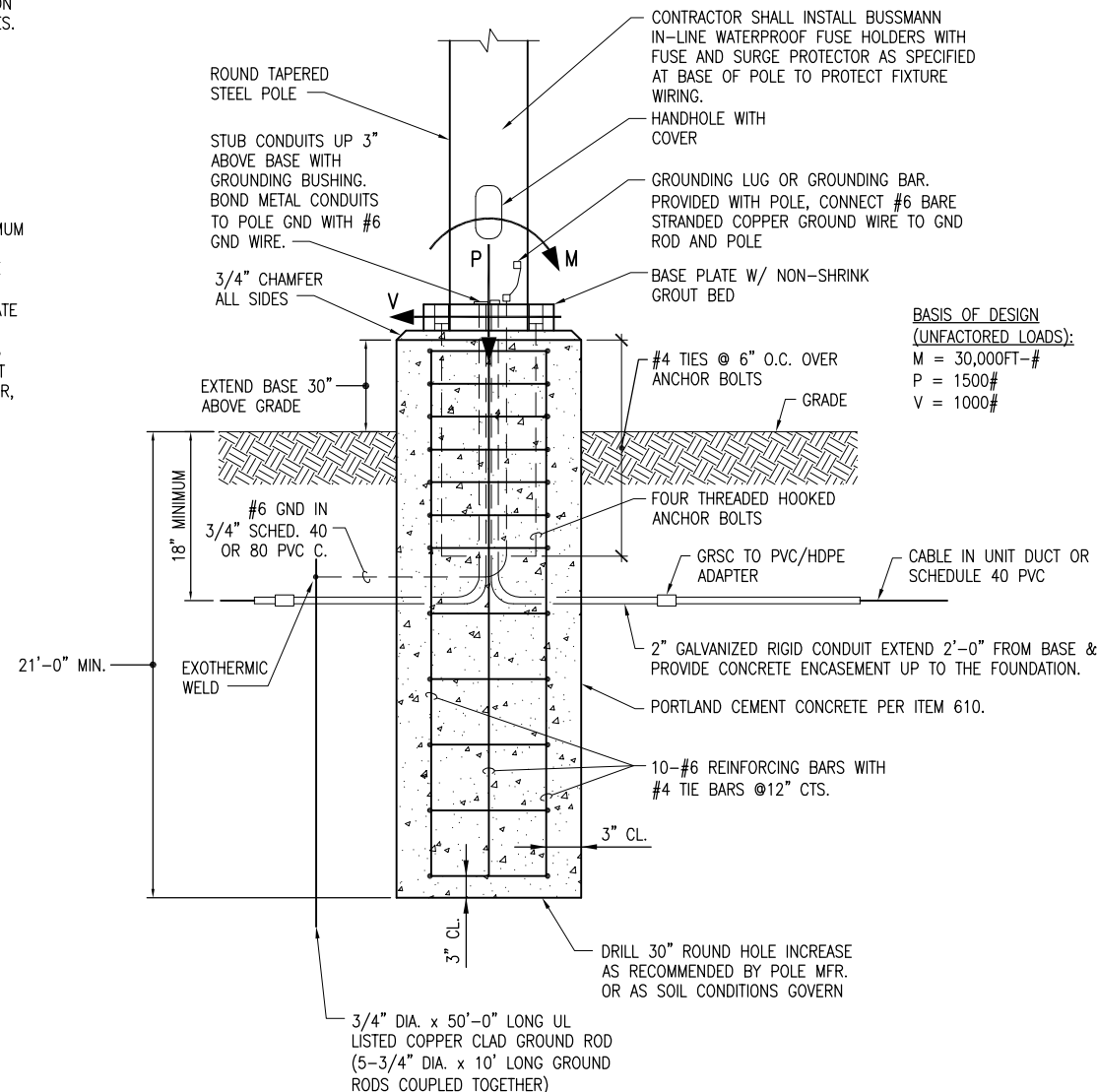
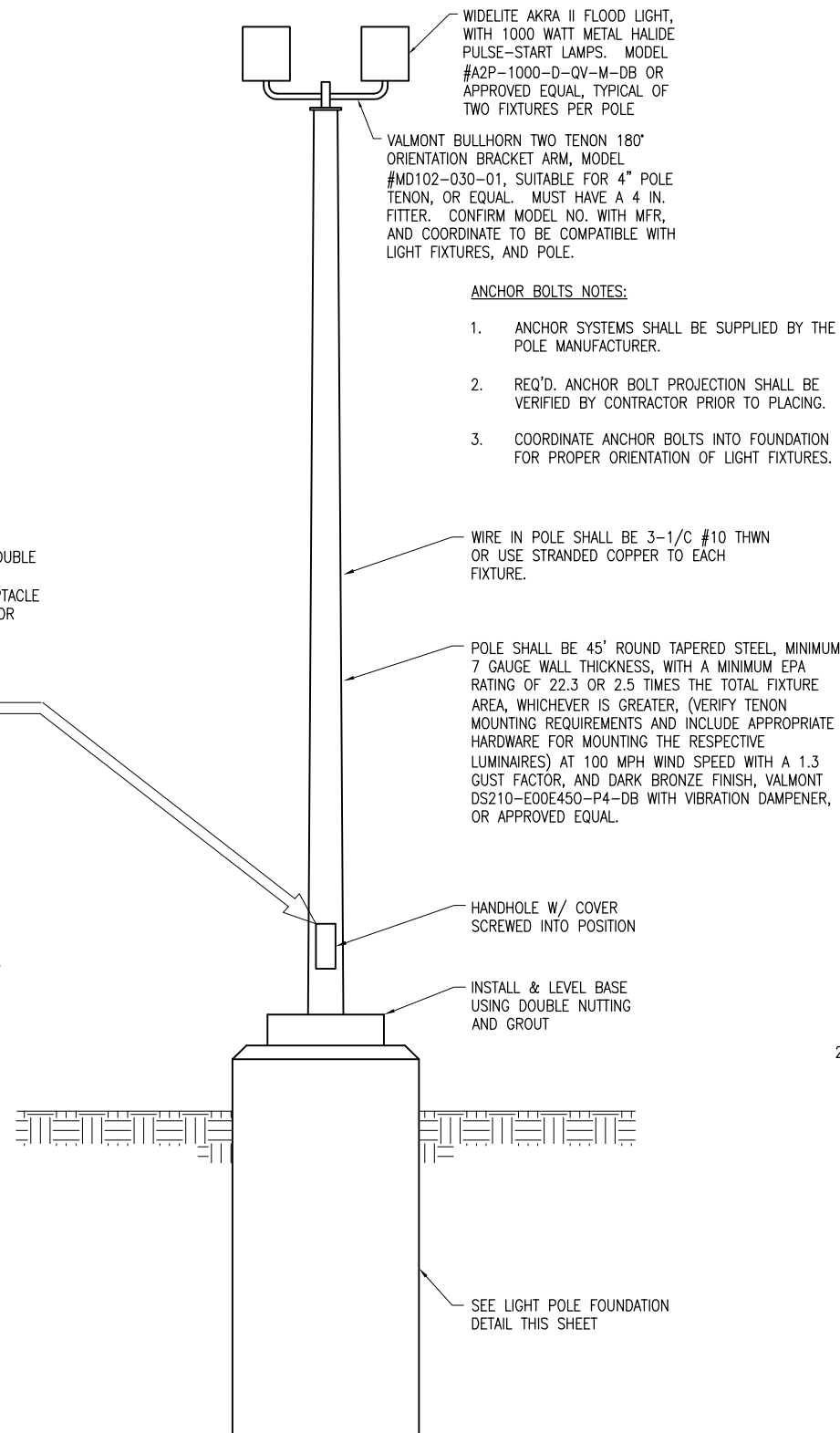
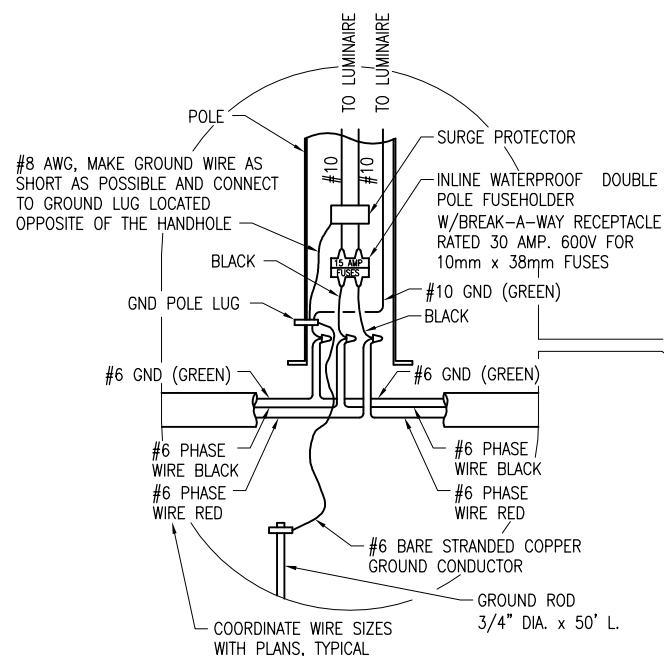
1. IN ALL AREAS WHERE THERE IS A CONGESTION OF BURIED CABLE OR WHERE THE PROPOSED DUCT CROSSES AN EXISTING CABLE, THE CONTRACTOR WILL BE REQUIRED TO HAND DIG THE PROPOSED DUCT INTO PLACE.
2. THE PROPOSED APRON LIGHTS SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN ON THE PROPOSED ELECTRICAL PLAN AND IN ACCORDANCE WITH THE SPECIAL PROVISION SPECIFICATIONS.
3. FOR ALTERNATE FIXTURES TO BE CONSIDERED PROVIDE SCALED PLAN VIEW TYPE POINT BY POINT FOOT CANDLE CALCULATIONS INDICATING THE FOLLOWING VARIABLES:
AVERAGE FOOT CANDLES
MAXIMUM/MINIMUM FOOT CANDLES
AVERAGE/MINIMUM FOOT CANDLES
ALSO PROVIDE FULL WRITTEN SPECIFICATION AND WARRANTY INFORMATION.
4. AIM FIXTURES WITH OWNER & RESIDENT ENGINEER PRESENT TO ACHIEVE BEST LIGHTING LAYOUT.
5. PROVIDE CERTIFICATION THAT POLE IS MANUFACTURED FROM 100% DOMESTIC STEEL. PROVIDE CERTIFICATION THAT REBAR IS MANUFACTURED FROM 100% DOMESTIC STEEL.
6. USE OF TEMPORARY STEEL CASING MAY BE NECESSARY TO SEAL OUT GROUND WATER AND SLOUGHING SOILS FROM SHAFT EXCAVATION.
7. APRON LIGHT POLE WITH 2 FIXTURES WILL BE PAID FOR UNDER ITEM AR106502 APRON LIGHT POLE W/ DOUBLE FIXTURE PER EACH.

WIDELITE AKRA II FLOOD LIGHT, WITH 1000 WATT METAL HALIDE PULSE-START LAMPS. MODEL #A2P-1000-D-QV-M-DB OR APPROVED EQUAL, TYPICAL OF TWO FIXTURES PER POLE

VALMONT BULLHORN TWO TENON 180° ORIENTATION BRACKET ARM, MODEL #MD102-030-01, SUITABLE FOR 4" POLE TENON, OR EQUAL. MUST HAVE A 4 IN. FITTER. CONFIRM MODEL NO. WITH MFR, AND COORDINATE TO BE COMPATIBLE WITH LIGHT FIXTURES, AND POLE.

ANCHOR BOLTS NOTES:

1. ANCHOR SYSTEMS SHALL BE SUPPLIED BY THE POLE MANUFACTURER.
2. REQ'D. ANCHOR BOLT PROJECTION SHALL BE VERIFIED BY CONTRACTOR PRIOR TO PLACING.
3. COORDINATE ANCHOR BOLTS INTO FOUNDATION FOR PROPER ORIENTATION OF LIGHT FIXTURES.



DATE	REVISION	BY

TRI-TOWNSHIP AIRPORT
SAVANNA, CARROLL COUNTY
ILLINOIS

Hanson Project No. 09A0033D_0800	File Name E-501.DWG	LAYOUT VPT/KNL	08/11/09
Scale NONE	Date 08/14/09	DRAWN MV	08/11/09
		REVIEWED CAH	08/11/09

HANSON

Hanson Professional Services Inc.
1525 South Sixth Street
Springfield, Illinois 62703-2886
Chicago Nationwide

REPLACE MITL SYS.,
INSTALL APRON LTS

APRON LIGHTING
DETAILS

SEP 21, 2009 11:46 AM HAGL000382 I:\AIRPORTS\SAVANNA\09A0033\AIRPORT\SHEETS\E-501.DWG - Work

ELECTRICAL LEGEND - ONE-LINE DIAGRAM	
	CABLE TERMINATOR/LUG
	TRANSFORMER
	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
	THERMAL MAGNETIC CIRCUIT BREAKER
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	FUSE
	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
	GROUND - GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
	INDICATING LIGHT
	MOTOR
	LOAD, MOTOR, # = HORSEPOWER
	ELECTRIC UTILITY METER BASE
	JUNCTION BOX WITH SPLICE
	EQUIPMENT, XXX = DEVICE DESCRIPTION
	GROUND BAR, GROUND BUS, OR GROUND TERMINAL
	SOLID NEUTRAL, NEUTRAL BUS, OR NEUTRAL TERMINAL
	PANELBOARD WITH MAIN LUGS
	PANELBOARD WITH MAIN BREAKER
	FUSE PANEL WITH MAIN FUSE PULLOUT
	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
	TRANSFER SWITCH
	ENGINE GENERATOR SET

ELECTRICAL LEGEND - SCHEMATIC	
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	STARTER COIL, * = STARTER NUMBER
	OVERLOAD RELAY CONTACT
	CONTROL RELAY, * = CONTROL RELAY NUMBER
	RELAY, * = RELAY NUMBER
	TOGGLE SWITCH / 2 POSITION SWITCH
	2-POSITION SELECTOR SWITCH
	3-POSITION SELECTOR SWITCH (H-O-A SHOWN)
	2 POLE DISCONNECT SWITCH
	3 POLE DISCONNECT SWITCH
	PHOTOCELL
	TERMINAL BLOCK, * = TERMINAL NUMBER
	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER
	INTERNAL PANEL WIRING
	FIELD WIRING
	FUSE
	GROUND BAR, GROUND BUS, OR GROUND TERMINAL
	SOLID NEUTRAL, NEUTRAL BUS, OR NEUTRAL TERMINAL
	GROUND, GROUND ROD, GROUND BUS
	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
	S1 CUTOUT HANDLE REMOVED
	S1 CUTOUT HANDLE INSERTED
	N.O. THERMAL SWITCH
	N.C. THERMAL SWITCH
	L-830 SERIES ISOLATION TRANSFORMER

ELECTRICAL ABBREVIATIONS	
A.F.F.	ABOVE FINISHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CR	CONTROL RELAY
CU	COPPER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
ES	EMERGENCY STOP
ETL	INTERTEK - ELECTRICAL TESTING LABS
ETM	ELAPSE TIME METER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRSC	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
J	JUNCTION BOX
KVA	KILOVOLT AMPERE(S)
KW	KILOWATTS
LC	LIGHTING CONTACTOR
LTFCM	LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED)
LTG	LIGHTING
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCULAR MIL
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD

ELECTRICAL ABBREVIATIONS (CONTINUED)	
PB	PULL BOX
PC	PHOTO CELL
PDB	POWER DISTRIBUTION BLOCK
PNL	PANEL
RCPT	RECEPTACLE
R	RELAY
S	STARTER
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UL	UNDERWRITER'S LABORATORIES
V	VOLTS
W/	WITH
W/O	WITHOUT
WP	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER

AIRPORT EQUIPMENT/FACILITY ABBREVIATIONS	
ASOS	AUTOMATED SURFACE OBSERVING SYSTEM
ATCT	AIR TRAFFIC CONTROL TOWER
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
CCR	CONSTANT CURRENT REGULATOR
DME	DISTANCE MEASURING EQUIPMENT
FAR	FEDERAL AVIATION REGULATION
GS	GLIDE SLOPE FACILITY
HIRL	HIGH INTENSITY RUNWAY LIGHT
ILS	INSTRUMENT LANDING SYSTEM
IM	INNER MARKER
LIR	LOW IMPACT-RESISTANT
LOC	LOCALIZER FACILITY
MALS	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM
MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATING LIGHTS
MIRL	MEDIUM INTENSITY RUNWAY LIGHT
MITL	MEDIUM INTENSITY TAXIWAY LIGHT
NDB	NON-DIRECTIONAL BEACON
PAPI	PRECISION APPROACH PATH INDICATOR
PLASI	PULSE LIGHT APPROACH SLOPE INDICATOR
RAIL	RUNWAY ALIGNMENT INDICATING LIGHTS
REIL	RUNWAY END IDENTIFIER LIGHT
RVR	RUNWAY VISUAL RANGE
VADI	VISUAL APPROACH DESCENT INDICATOR
VASI	VISUAL APPROACH SLOPE INDICATOR
VOR	VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE FACILITY
WC	WIND CONE

ELECTRICAL LEGEND - PLANS	
	CONDUIT (EXPOSED)
	CONDUIT OR UNIT DUCT (CONCEALED OR BURIED)
	POLE OR CONDUIT MOUNTED LIGHT FIXTURE
	WALL OR CEILING MTD. JUNCTION BOX. CONFIGURATION VARIES WITH USE
	SINGLE THROW DISCONNECT SWITCH
	SINGLE THROW, FUSIBLE DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER
	DOUBLE THROW SAFETY SWITCH, MANUAL TRANSFER SWITCH
	CONTROL PANEL
	TRANSFORMER
	ELECTRIC UTILITY METER
	ENCLOSURE
	CIRCUIT BREAKER PANEL-SEE SCHEDULES
	GROUND ROD
	#12 AWG TWHN COPPER UNLESS NOTED OTHERWISE. LONG SLASHES INDICATE NEUTRAL. SHORT SLASHES INDICATE HOT OR SWITCHED LEG. SLASHES WITH DOT INDICATE SEPARATE GROUND WIRE.
	HOMERUN TO PANEL PNL A INDICATES PANEL 1,3,5 INDICATES CIRCUIT NUMBERS
	PHOTO-ELECTRIC CELL

NOTES:

- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (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 WILL NOT BE PERMITTED.
- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR/MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- COLOR CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED INSULATION OR COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTORS FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND/OR KCMIL TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE COLORED INSULATION FOR NO. 6 AWG AND SMALLER TO MEET THE REQUIREMENTS OF NEC 200.6. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

120/240 VAC, 1 PHASE, 2 WIRE
 PHASE A BLACK
 PHASE B RED
 NEUTRAL WHITE
 GROUND GREEN

DATE	REVISION	BY

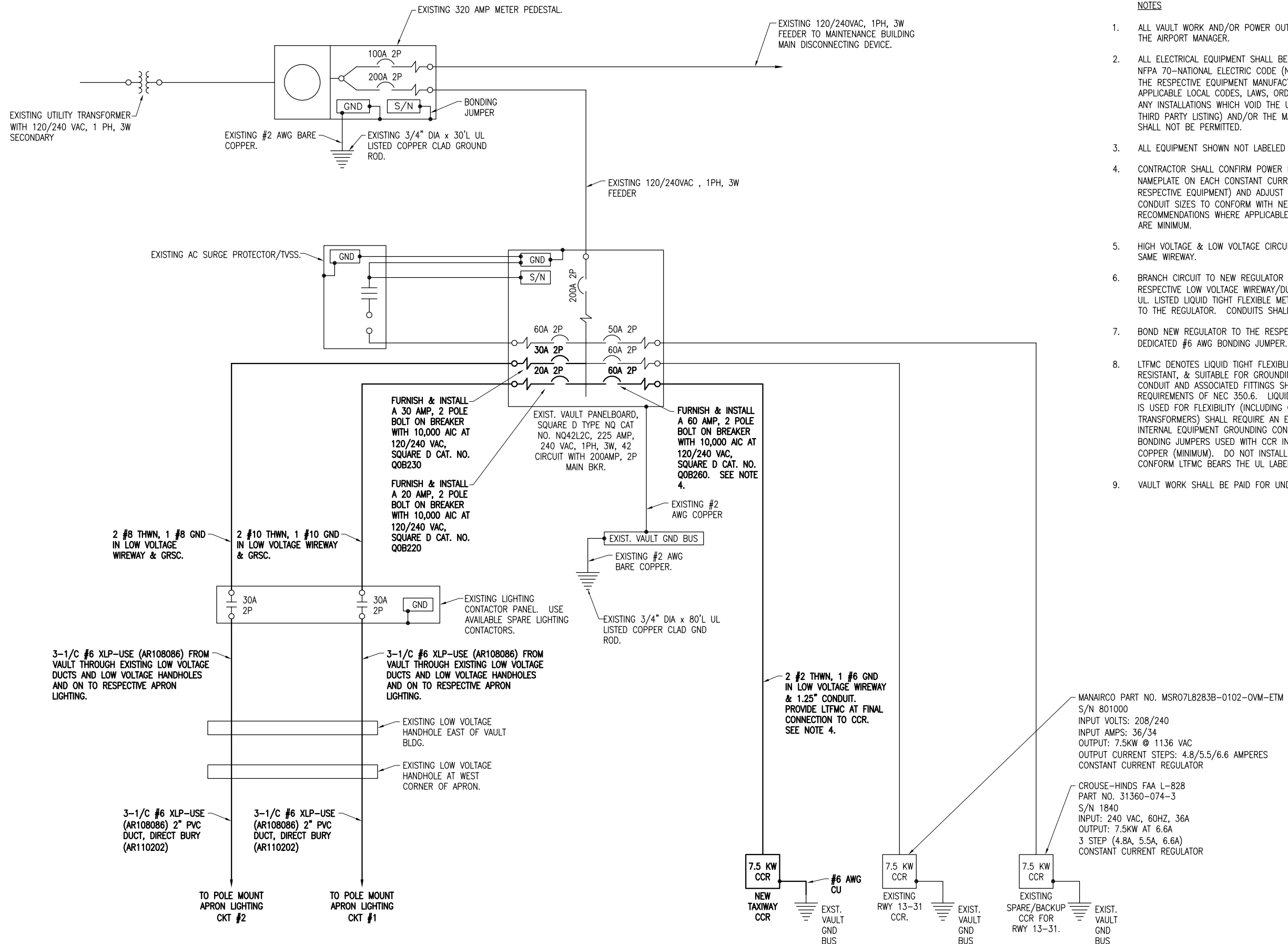
TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

Hanson Project No. 09A0033D_0800	File Name E-001.DWG	Scale NOT TO SCALE	Date 08/14/09	LAYOUT KNL 07/31/09	DRAWN MV 07/31/09	REVIEWED CAH 07/31/09
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REPLACE MITL SYS.,
 INSTALL APRON LTS

ELECTRICAL LEGEND
 AND ABBREVIATIONS



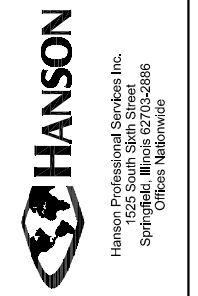
- NOTES**
- ALL VAULT WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT MANAGER.
 - ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70-NATIONAL ELECTRIC CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE 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.
 - ALL EQUIPMENT SHOWN NOT LABELED AS EXISTING IS NEW.
 - CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH CONSTANT CURRENT REGULATOR (OR OTHER RESPECTIVE EQUIPMENT) 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.
 - HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY.
 - BRANCH CIRCUIT TO NEW REGULATOR 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 REGULATOR. CONDUITS SHALL BE SIZED IN ACCORDANCE WITH NEC.
 - BOND NEW REGULATOR TO THE RESPECTIVE VAULT GROUND BUS WITH A DEDICATED #6 AWG BONDING JUMPER.
 - LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFORM LTFMC BEARS THE UL LABEL PRIOR TO INSTALLING IT.
 - VAULT WORK SHALL BE PAID FOR UNDER ITEM AR109200.

NEW ELECTRICAL ONE-LINE DIAGRAM FOR VAULT

BY	
REVISION	
DATE	

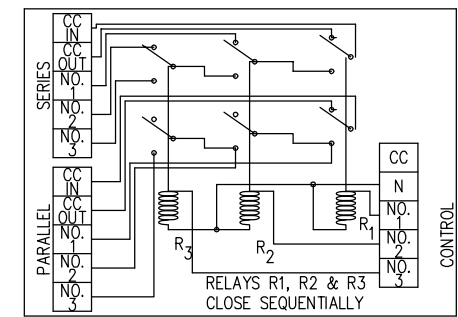
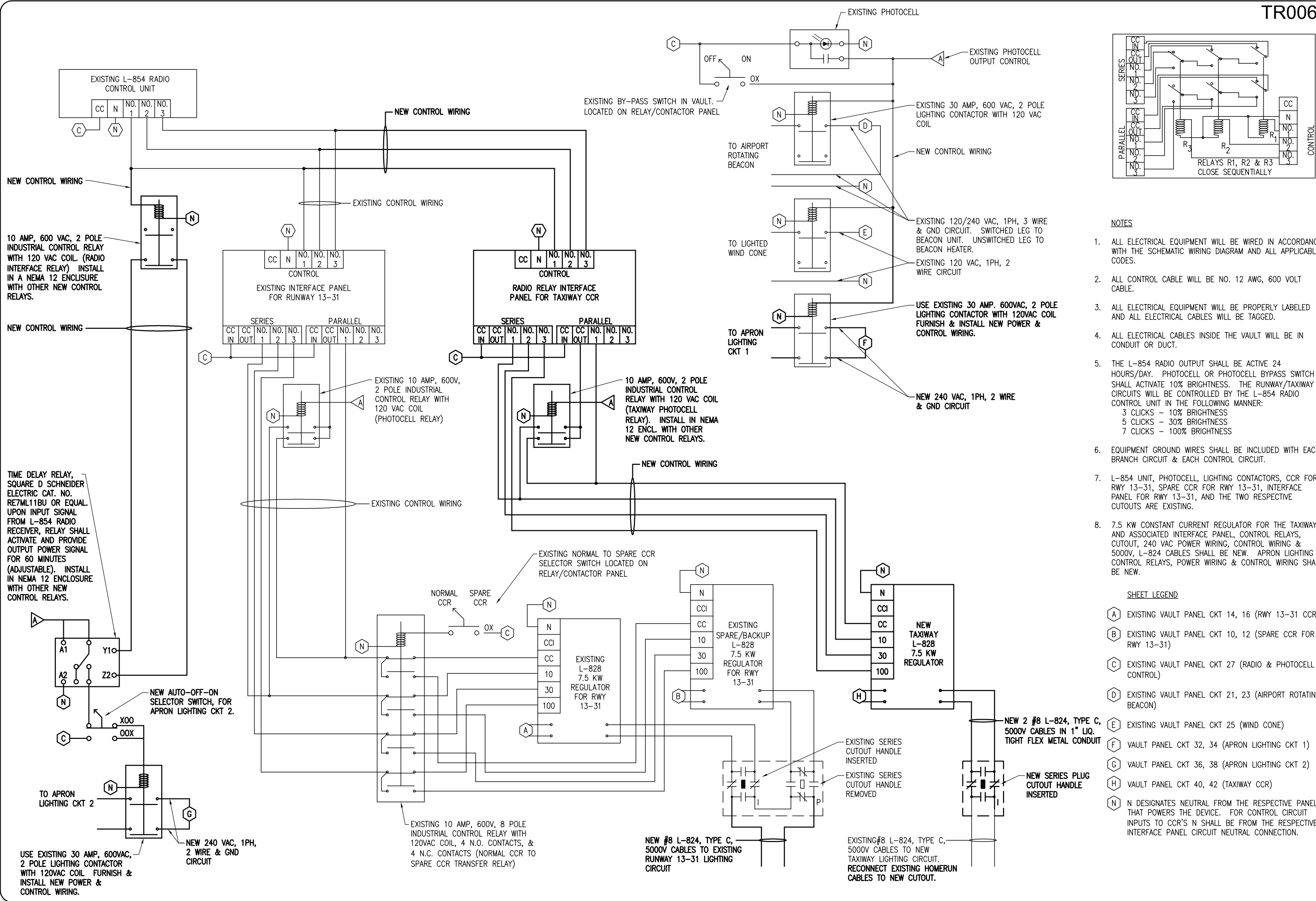
TRI-TOWNSHIP AIRPORT
SAVANNA, CARROLL COUNTY
ILLINOIS

Hanson Project No. 09A0033D_0800	FILENAME E-601.DWG	LAYOUT	KNL	08/11/09
Scale NOT TO SCALE	Date 08/14/09	DRAWN	MV	08/11/09
		REVIEWED	CAH	08/11/09



REPLACE MITL SYS.,
INSTALL APRON LTS
NEW ELECTRICAL
ONE LINE DIAGRAM
FOR VAULT

SEP 21, 2009 11:47 AM HAGL000382
I:\AIRPORTS\SAVANNA\09A0033\AIRPORT\SHEETS\E-601.DWG - Work



NOTES

1. ALL ELECTRICAL EQUIPMENT WILL BE WIRED IN ACCORDANCE WITH THE SCHEMATIC WIRING DIAGRAM AND ALL APPLICABLE CODES.
2. ALL CONTROL CABLE WILL BE NO. 12 AWG, 600 VOLT CABLE.
3. ALL ELECTRICAL EQUIPMENT WILL BE PROPERLY LABELED AND ALL ELECTRICAL CABLES WILL BE TAGGED.
4. ALL ELECTRICAL CABLES INSIDE THE VAULT WILL BE IN CONDUIT OR DUCT.
5. THE L-854 RADIO OUTPUT SHALL BE ACTIVE 24 HOURS/DAY. PHOTOCELL OR PHOTOCELL BYPASS SWITCH SHALL ACTIVATE 10% BRIGHTNESS. THE RUNWAY/TAXIWAY CIRCUITS WILL BE CONTROLLED BY THE L-854 RADIO CONTROL UNIT IN THE FOLLOWING MANNER:
3 CLICKS - 10% BRIGHTNESS
5 CLICKS - 30% BRIGHTNESS
7 CLICKS - 100% BRIGHTNESS
6. EQUIPMENT GROUND WIRES SHALL BE INCLUDED WITH EACH BRANCH CIRCUIT & EACH CONTROL CIRCUIT.
7. L-854 UNIT, PHOTOCELL, LIGHTING CONTACTORS, CCR FOR RWY 13-31, SPARE CCR FOR RWY 13-31, INTERFACE PANEL FOR RWY 13-31, AND THE TWO RESPECTIVE CUTOUTS ARE EXISTING.
8. 7.5 KW CONSTANT CURRENT REGULATOR FOR THE TAXIWAY AND ASSOCIATED INTERFACE PANEL, CONTROL RELAYS, CUTOUT, 240 VAC POWER WIRING, CONTROL WIRING & 5000V, L-824 CABLES SHALL BE NEW. APRON LIGHTING CONTROL RELAYS, POWER WIRING & CONTROL WIRING SHALL BE NEW.

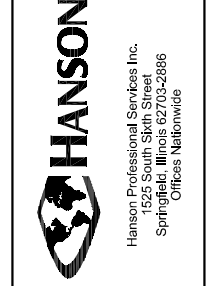
SHEET LEGEND

- (A) EXISTING VAULT PANEL CKT 14, 16 (RWY 13-31 CCR)
- (B) EXISTING VAULT PANEL CKT 10, 12 (SPARE CCR FOR RWY 13-31)
- (C) EXISTING VAULT PANEL CKT 27 (RADIO & PHOTOCELL CONTROL)
- (D) EXISTING VAULT PANEL CKT 21, 23 (AIRPORT ROTATING BEACON)
- (E) EXISTING VAULT PANEL CKT 25 (WIND CONE)
- (F) VAULT PANEL CKT 32, 34 (APRON LIGHTING CKT 1)
- (G) VAULT PANEL CKT 36, 38 (APRON LIGHTING CKT 2)
- (H) VAULT PANEL CKT 40, 42 (TAXIWAY CCR)
- (N) N DESIGNATES NEUTRAL FROM THE RESPECTIVE PANEL THAT POWERS THE DEVICE. FOR CONTROL CIRCUIT INPUTS TO CCR'S N SHALL BE FROM THE RESPECTIVE INTERFACE PANEL CIRCUIT NEUTRAL CONNECTION.

BY	
REVISION	
DATE	

TRI-TOWNSHIP AIRPORT
SAVANNA, CARROLL COUNTY
ILLINOIS

Hanson Project No.	09A0033D_0800
Filename	E-603.DWG
Scale	NOT TO SCALE
Date	08/14/09
LAYOUT	KNL 07/31/09
DRAWN	MV 07/31/09
REVIEWED	CAH 07/31/09



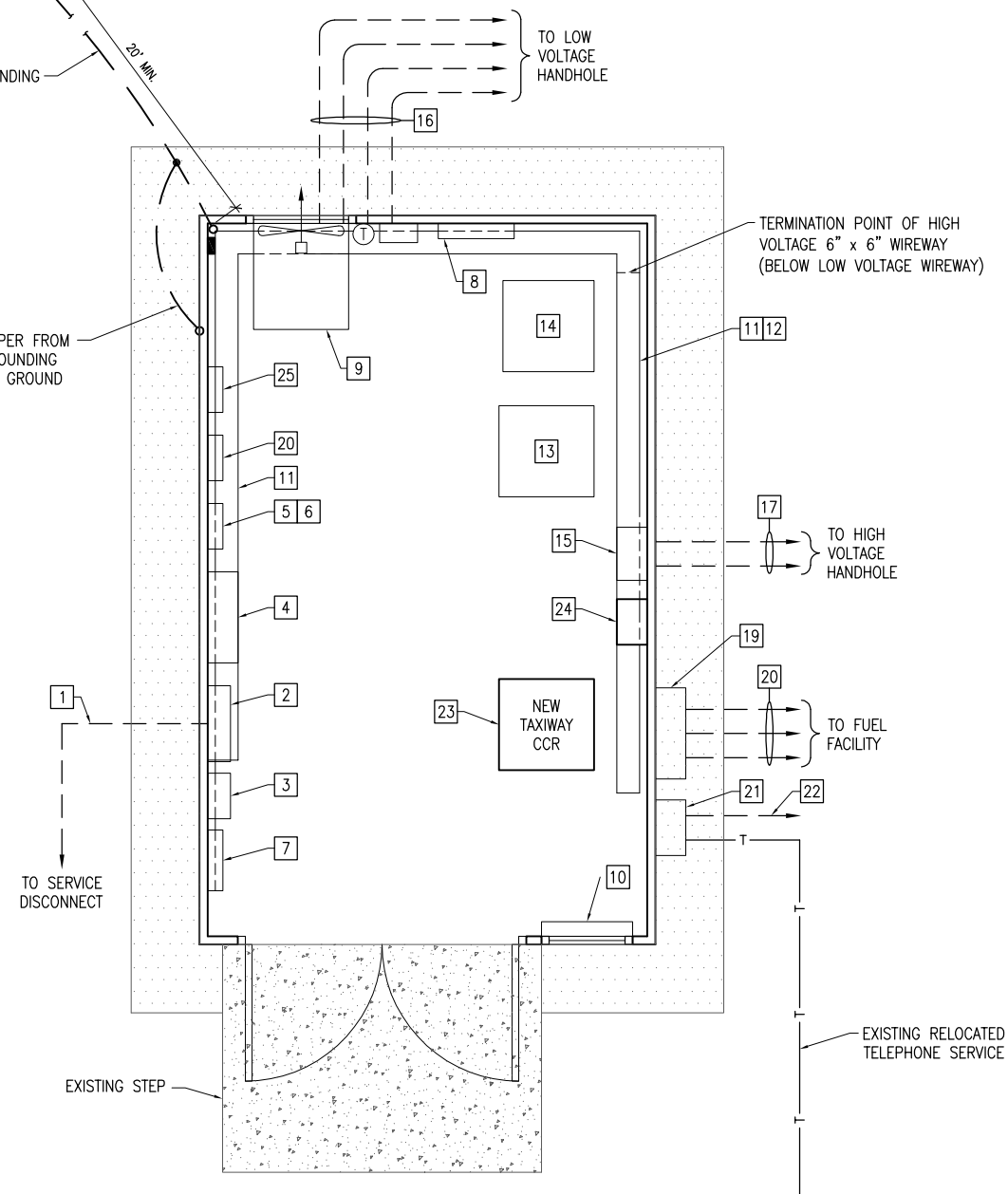
REPLACE MITL SYS.,
INSTALL APRON LTS
AIRFIELD LIGHTING
WIRING SCHEMATIC

SEP 21, 2009 11:48 AM HAGL000382
 I:\AIRPORTS\SAVANNA\09A0033\AIRPORT\SHETS\E-603.DWG - Work

EXISTING 3/4" x 80' UL LISTED COPPERCLAD GND ROD. CONNECTIONS TO GND RODS SHALL BE EXOTHERMIC WELD.

EXISTING #2 AWG COPPER GROUNDING ELECTRODE CONDUCTOR

EXISTING #2 AWG BARE COPPER FROM BUILDING STEEL SKID TO GROUNDING ELECTRODE CONDUCTOR FOR GROUND ROD.



VAULT ELECTRICAL EQUIPMENT PLAN
 SCALE 1/2"=1'-0"
 1 0 2 4 FEET

GENERAL NOTES

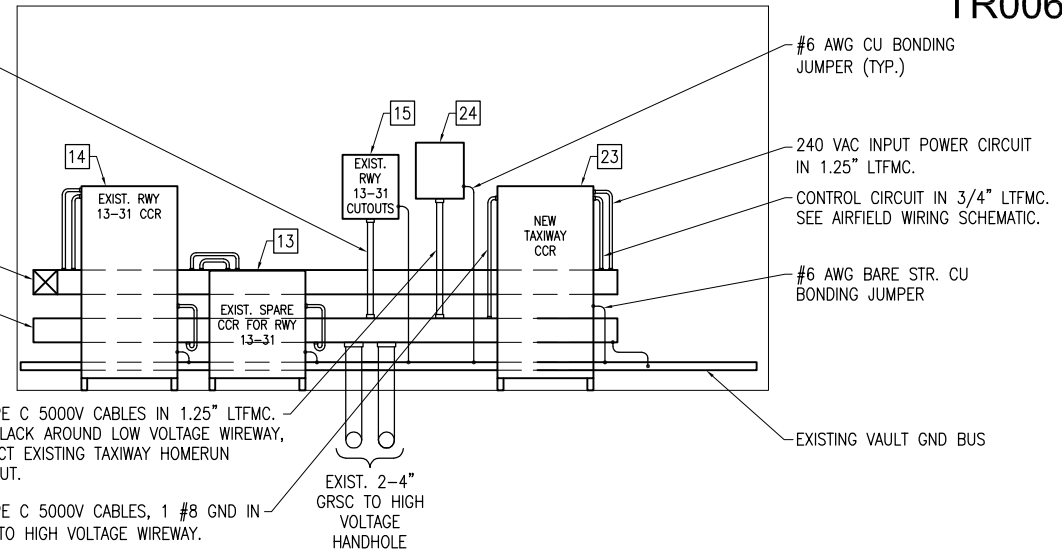
- SEE "NEW ELECTRICAL ONE LINE DIAGRAM FOR VAULT" FOR LOW VOLTAGE INPUT POWER WIRING REQUIREMENTS TO TAXIWAY CCR (CONSTANT CURRENT REGULATOR). SEE "HIGH VOLTAGE WIRING SCHEMATIC" FOR CCR OUTPUT WIRING REQUIREMENTS. SEE "AIRFIELD LIGHTING WIRING SCHEMATIC" FOR CCR CONTROL WIRING REQUIREMENTS. PROVIDE 5 FEET MINIMUM CLEAR WORKING SPACE IN FRONT OF EACH CCR AND EACH SERIES PLUG CUTOUT.
- CONSTANT CURRENT REGULATORS AND THEIR RESPECTIVE SERIES PLUG CUTOUTS SHALL BE CLEARLY LABELED TO IDENTIFY THE RESPECTIVE REGULATOR DESIGNATION, RUNWAY OR TAXIWAY SERVED, POWER SOURCE OR CIRCUIT, AND VOLTAGE SYSTEM.
- SEE ELEVATION VIEWS FOR ADDITIONAL INFORMATION ON PROPOSED EQUIPMENT LAYOUTS.
- MAINTAIN SEPARATION OF HIGH VOLTAGE AND LOW VOLTAGE CIRCUITS. LOW VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE LOW VOLTAGE SECTION. HIGH VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE HIGH VOLTAGE SECTION

CONNECT NEW HOMERUN CABLES TO EXISTING CUTOUTS FOR RWY 13-31 LIGHTING CIRCUIT

EXISTING LOW VOLTAGE 6" x 6" WIREWAY
 EXISTING HIGH VOLTAGE 6" x 6" WIREWAY

4 #8 FAA L-824, TYPE C 5000V CABLES IN 1.25" LTFMC. PROVIDE SUFFICIENT SLACK AROUND LOW VOLTAGE WIREWAY, FOR ACCESS. CONNECT EXISTING TAXIWAY HOMERUN CABLES TO NEW CUTOUT.

2 #8 FAA L-824, TYPE C 5000V CABLES, 1 #8 GND IN 1" LTFMC FROM CCR TO HIGH VOLTAGE WIREWAY.



VAULT EAST WALL ELEVATION
 SCALE 1/2"=1'-0"
 1 0 2 4 FEET

KEYED NOTES

- EXISTING 120/240 VAC, 1PH, 3W FEEDER FROM SERVICE BREAKER TO VAULT PANEL.
- EXISTING VAULT PANELBOARD.
- EXISTING AC SURGE PROTECTOR/TVSS.
- EXISTING RELAY/LIGHTING CONTACTOR PANEL. USE SPARE CONTACTORS TO POWER APRON LIGHTING CIRCUITS NO. 1 & NO. 2.
- EXISTING L-854 RADIO CONTROL UNIT WITH RELAY INTERFACE PANEL BELOW.
- EXISTING RELAY INTERFACE PANEL FOR RUNWAY 13-31 (BELOW L-854 RADIO CONTROL UNIT).
- EXISTING ELECTRIC WALL HEATER EH-1.
- EXISTING ELECTRIC WALL HEATER EH-2.
- EXISTING EXHAUST FAN EF-1.
- EXISTING INTAKE LOUVER L-1.
- EXISTING 6" BY 6" LOW VOLTAGE WIREWAY.
- EXISTING 6" BY 6" HIGH VOLTAGE WIREWAY.
- EXISTING SPARE/BACKUP CCR FOR RUNWAY 13-31.
- EXISTING RUNWAY 13-31 CONSTANT CURRENT REGULATOR.
- EXISTING SERIES PLUG CUTOUTS IN A NEMA 12 ENCLOSURE WITH HINGED COVER, FOR RWY 13-31 LIGHTING CIRCUIT. DISCONNECT EXISTING HOMERUN CONDUCTORS FROM LOAD SIDE OF RWY 13-31 CUTOUTS AND RECONNECT THESE CONDUCTORS TO THE TAXIWAY CUTOUT. TERMINATE THE NEW RWY 13-31 HOMERUN CONDUCTORS ON THE LOAD SIDE OF THE EXISTING CUTOUTS.
- EXISTING 4-4" GRSC FROM LOW VOLTAGE WIREWAY TO DUCT BANK. INSTALL APRON LIGHTING CIRCUITS IN SPARE DUCT.
- EXISTING 2-4" GRSC FROM HIGH VOLTAGE WIREWAY TO HIGH VOLTAGE HANDHOLE. INSTALL RWY 13-31 HOMERUN CABLES IN SPARE HIGH VOLTAGE CONDUIT.
- EXISTING FUEL FACILITY LOAD CENTER.
- EXISTING NEMA 4X SS J-BOX FOR FUEL FACILITY CIRCUITS.
- EXISTING FUEL FACILITY CIRCUITS IN 3/4" GRSC.
- EXISTING RELOCATED TELEPHONE NETWORK INTERFACE BOX.
- EXISTING TELEPHONE CABLE IN 3/4" GRSC TO FUEL SYSTEM CONTROLLER.
- NEW TAXIWAY CONSTANT CURRENT REGULATOR. SEE GENERAL NOTE 1.
- NEW SERIES PLUG CUTOUT, TYPE S-1 IN A NEMA 1 OR NEMA 12 ENCLOSURE WITH HINGED COVER, FOR TAXIWAY LIGHTING CIRCUIT.
- NEW RELAY INTERFACE PANEL FOR TAXIWAY CCR. SEE AIRFIELD LIGHTING WIRING SCHEMATIC FOR WIRING REQUIREMENTS. INSTALL RELAY CONTROL PANEL FOR APRON LIGHTING & TAXIWAY PHOTOCCELL INTERFACE ABOVE OR BELOW RELAY INTERFACE PANEL FOR TAXIWAY CCR

BY	
REVISION	
DATE	

TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

IL. PROJ.: SFY-3932 A.I.P. PROJ.: 3-17-09-1-B15

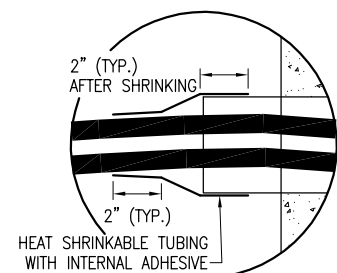
Hanson Project No. 09A0033D_0800	
Filename E-101.DWG	
Scale NOT TO SCALE	
Date 08/14/09	
LAYOUT	KNL 08/11/09
DRAWN	MV 08/11/09
REVIEWED	CAH 08/11/09

HANSON

Hanson Professional Services Inc.
 1525 South Sixth Street
 Springfield, Illinois 62703-2886
 Offices Nationwide

REPLACE MITL SYS.,
 INSTALL APRON LTS

VAULT FLOOR PLAN
 & ELEVATIONS



DETAIL "B"
(NOT TO SCALE)

INTERNAL GROUND LUG. CONNECT EQUIPMENT GROUND WIRES WITH ONE HOLE COMPRESSION LUG, PENN-UNION CAT. NO. BLU-8S17 OR EQUAL & STAINLESS STEEL NUTS & BOLTS.

EXTERNAL GROUND LUG WITH BOLTED CONNECTOR SUITABLE FOR DIRECT BURIAL IN EARTH OR CONCRETE

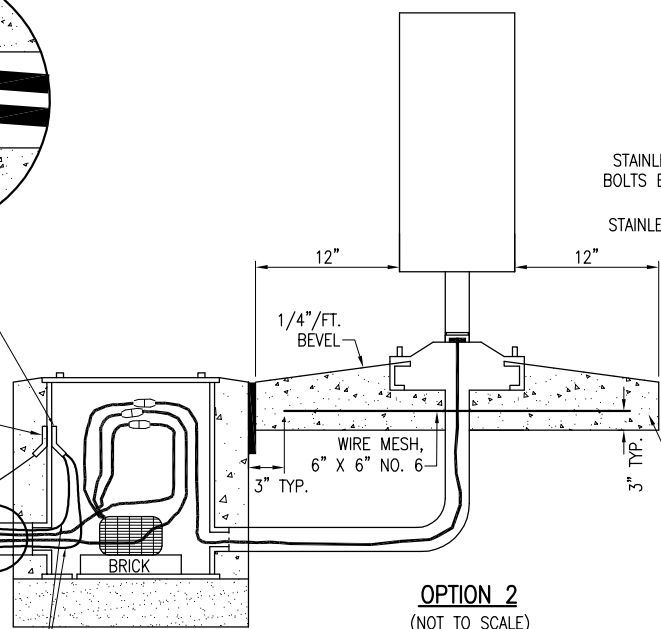
SEE DETAIL "B" ON THIS SHEET

#6 AWG CU

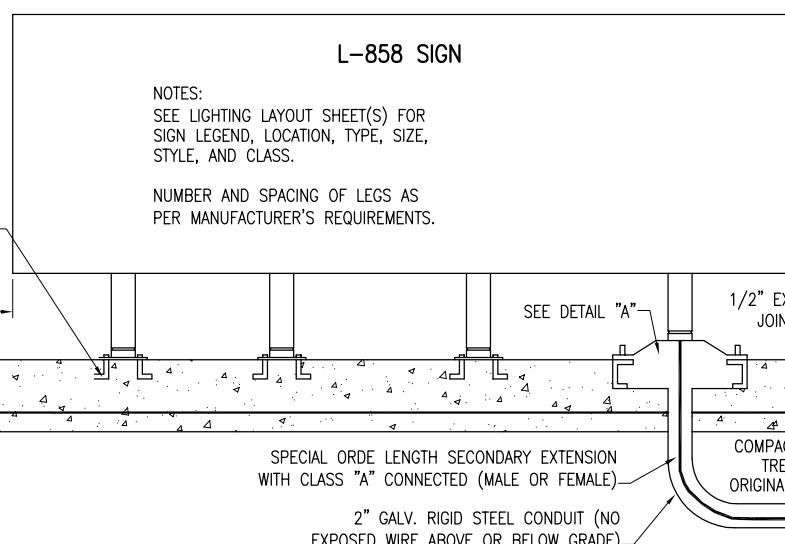
UL LISTED COPPERCLAD GROUND ROD 3/4" DIA x 50 FT. LONG (5-10 FT. GND RODS COUPLED TOGETHER).

1/C, #8, 5 KV, L-824 TYPE C CABLE WITH 1/C #8 EQUIPT. GND

#8 AWG EQUIPT GROUND WIRE



OPTION 2
(NOT TO SCALE)



OPTION 1
(NOT TO SCALE)

THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER, IN RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE INFORMATION AND THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE CONDITIONS ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION.

NOTES:
SEE LIGHTING LAYOUT SHEET(S) FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
NUMBER AND SPACING OF LEGS AS PER MANUFACTURER'S REQUIREMENTS.

PROVIDE A MINIMUM OF THREE FEET SLACK IN EACH PRIMARY CABLE AND SECONDARY EXTENSION

COVER BOLTS SLOPE TO DRAIN AWAY FROM L-867 BASE
EXTERNAL GROUND LUG WITH BOLTED CONNECTOR SUITABLE FOR DIRECT BURIAL IN EARTH OR CONCRETE

FINISHED GRADE
610 CONCRETE 4" MIN. THICK
L-830 TRANSFORMER, SIZE AS REQUIRED BY SIGN MANUFACTURER
SHRINK TUBE
1/C, #8, 5 KV, L-824 TYPE C CABLE WITH 1/C #8 EQUIPT. GND

SPECIAL ORDE LENGTH SECONDARY EXTENSION WITH CLASS "A" CONNECTED (MALE OR FEMALE)
2" GALV. RIGID STEEL CONDUIT (NO EXPOSED WIRE ABOVE OR BELOW GRADE)

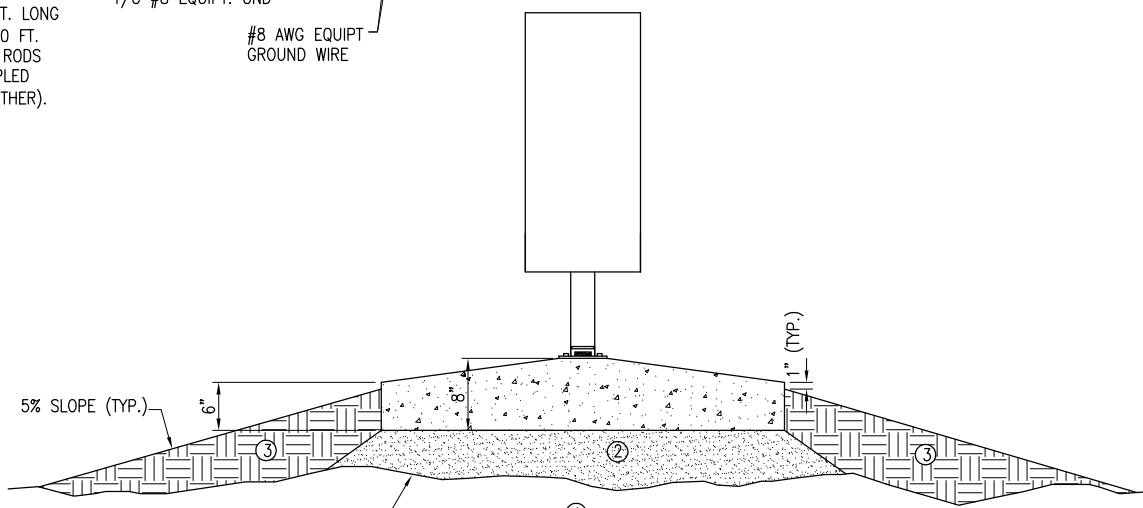
INTERNAL GROUND LUG. CONNECT EQUIPMENT GROUND WIRES WITH ONE HOLE COMPRESSION LUG, PENN-UNION CAT. NO. BLU-8817 & STAINLESS STEEL NUTS & BOLTS.

#8 AWG EQUIPT GROUND WIRE
3/4" DIA. WEEP HOLE
COLOR CODED TAPE FOR WIRE IDENTIFICATION LOCATED WITHIN 6" OF L-823 CONNECTOR

UL LISTED COPPERCLAD GROUND ROD 3/4" DIA x 50 FT. LONG (5-10 FT. GND RODS COUPLED TOGETHER).
#6 AWG CU

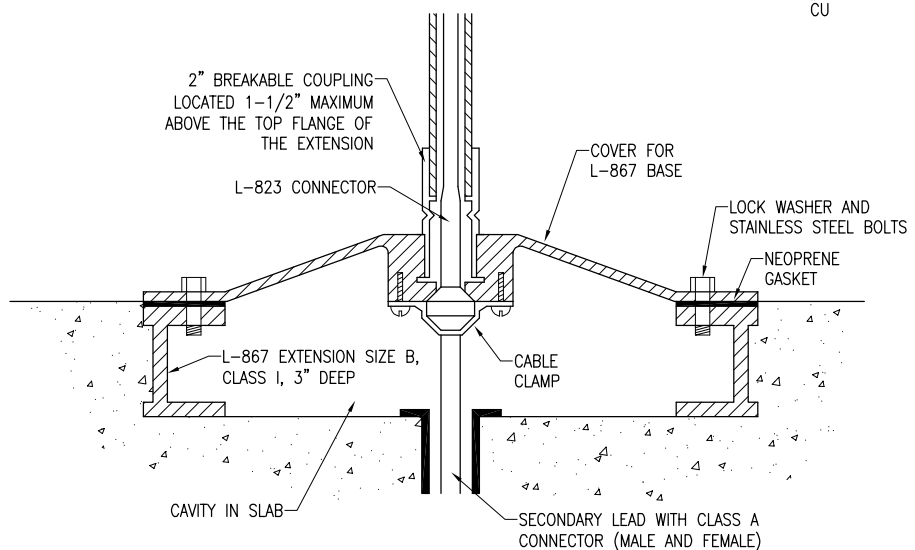
GENERAL NOTES

SEE LIGHTING LAYOUT SHEET FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
SEE SHEETS 11 THROUGH 12 FOR ELECTRICAL NOTES.

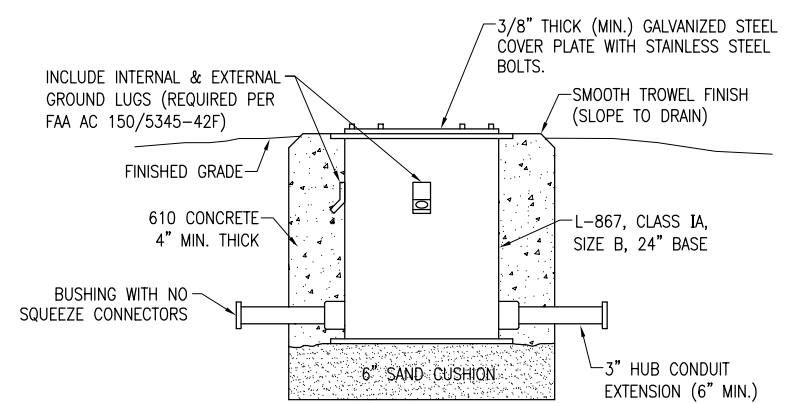


SIGN DETAIL
(NOT TO SCALE)

- ① EXISTING SOD TO BE STRIPPED AND REMOVED
- ② SAND BACKFILL, VARIABLE DEPTH
- ③ PROPOSED TOPSOIL BACKFILL MATERIAL



DETAIL "A"
(NOT TO SCALE)



TRANSFORMER BASE/SPLICE CAN DETAIL
(NOT TO SCALE)

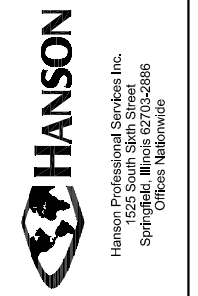
NOTE:
FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AN INTERNAL AND EXTERNAL GROUND STRAP THAT IS AVAILABLE FOR THE PURPOSE OF ATTACHING A GROUND LUG THAT IS CONNECTED TO AN EARTH GROUND OR A SAFETY GROUND CONDUCTOR INSTALLED WITH THE RESPECTIVE CIRCUIT. FOR AIRPORT PROJECTS RECEIVING FEDERAL FUNDS THIS REQUIREMENT IS MANDATORY PER FAA AC 150/5345-42F.

PER FAA AC 150/5340-30C DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. A SAFETY GROUND SHALL BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. THE SAFETY GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A UL LISTED COPPER CLAD GROUND ROD. THE GROUND RODS FOR STAKE MOUNTED LIGHTS SHALL BE 3/4 INCH DIAMETER BY 10-FOOT LONG. THE GROUND RODS FOR BASE MOUNTED LIGHTS SHALL BE 3/4 INCH DIAMETER BY 50-FOOT LONG (5-10 FT. GROUND RODS COUPLED TOGETHER). ALL MOUNTING STAKES AND BASE CANS ASSOCIATED WITH THE TAXIWAY LIGHTING SYSTEM SHALL BE BONDED TOGETHER WITH A #8 AWG EQUIPMENT GROUND WIRE RUN WITH THE 5000 VOLT SERIES CIRCUIT CONDUCTOR.

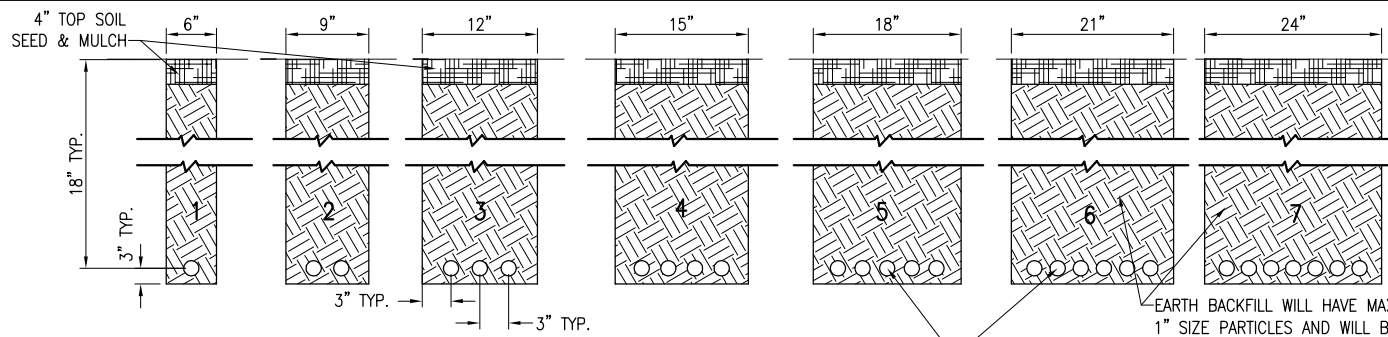
REVISION	DATE	BY

TRI-TOWNSHIP AIRPORT
SAVANNA, CARROLL COUNTY
ILLINOIS

Hanson Project No. 09A0033D_0800	FILENAME R-541ELE.DWG	SCALE NOT TO SCALE	DATE 08/14/09
LAYOUT	KNL	07/30/09	
DRAWN	MV	07/30/09	
REVIEWED	CAH	07/30/09	

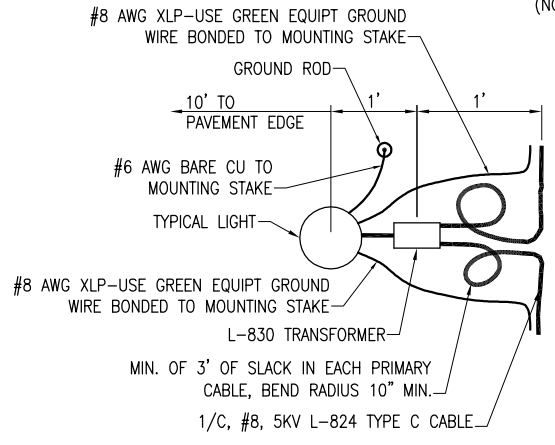


REPLACE MITL SYS.,
INSTALL APRON LTS
PROPOSED
ELECTRICAL DETAILS
SHEET 1

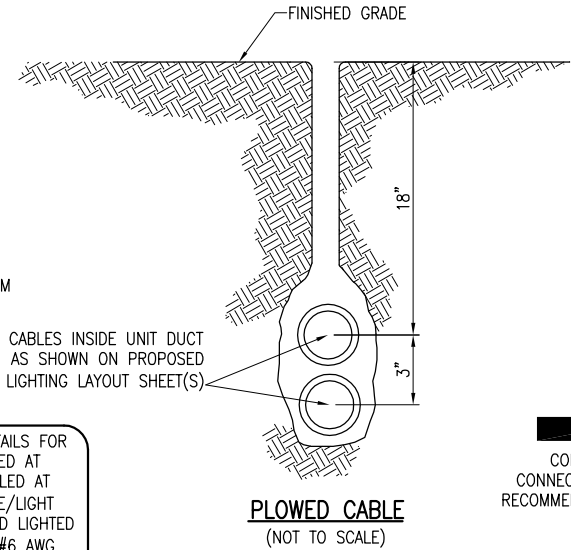


NOTES:
 DETAIL NUMBERS INDICATE NO. OF CABLES.
 TRENCHES WITH MORE THAN SEVEN CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.
 DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.

CABLE TRENCHES
(NOT TO SCALE)



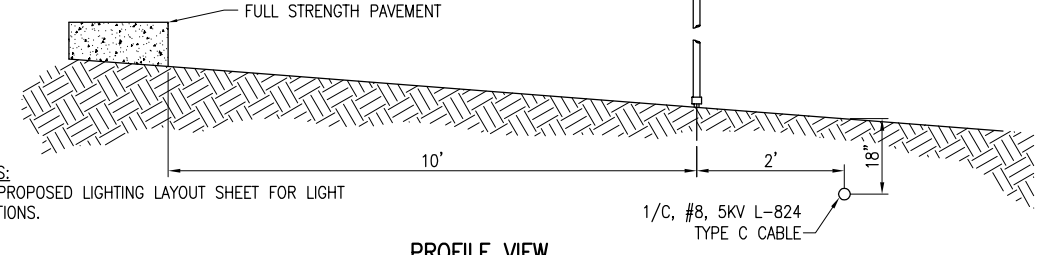
PLAN VIEW



PLOWED CABLE
(NOT TO SCALE)

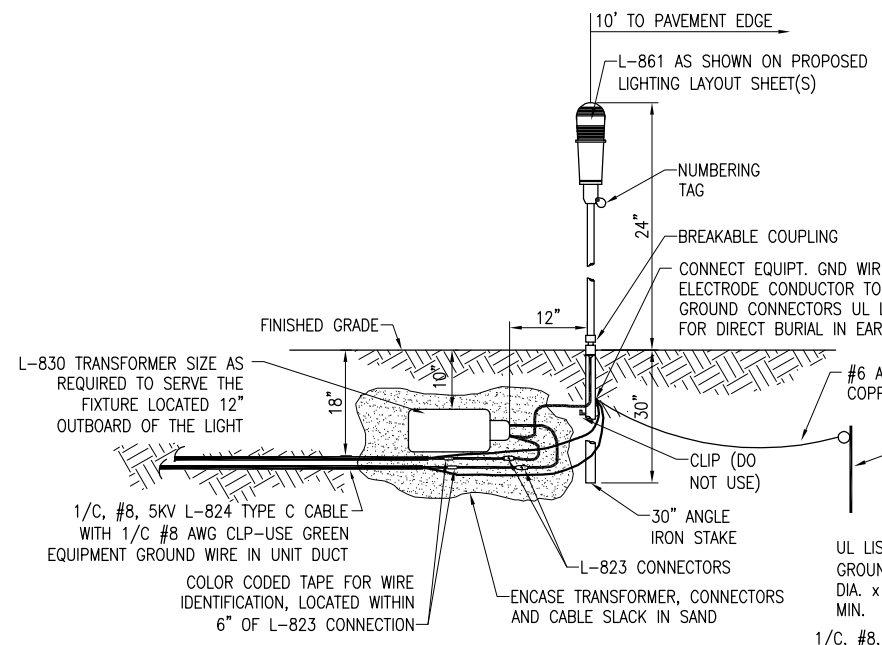
PER FAA AC 150/5340-30D DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. A SAFETY GROUND SHALL BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. THE SAFETY GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A UL LISTED COPPER CLAD GROUND ROD. THE GROUND RODS FOR STAKE MOUNTED LIGHTS SHALL BE 3/4 INCH DIAMETER BY 10-FOOT LONG. THE GROUND RODS FOR BASE MOUNTED LIGHTS SHALL BE 3/4 INCH DIAMETER BY 50-FOOT LONG (5-10 FT. GROUND RODS COUPLED TOGETHER). ALL MOUNTING STAKES AND BASE CANS ASSOCIATED WITH THE TAXIWAY LIGHTING SYSTEM SHALL BE BONDED TOGETHER WITH A #8 AWG EQUIPMENT GROUND WIRE RUN WITH THE 5000 VOLT SERIES CIRCUIT CONDUCTOR.

NOTES:
 SEE PROPOSED LIGHTING LAYOUT SHEET FOR LIGHT LOCATIONS.

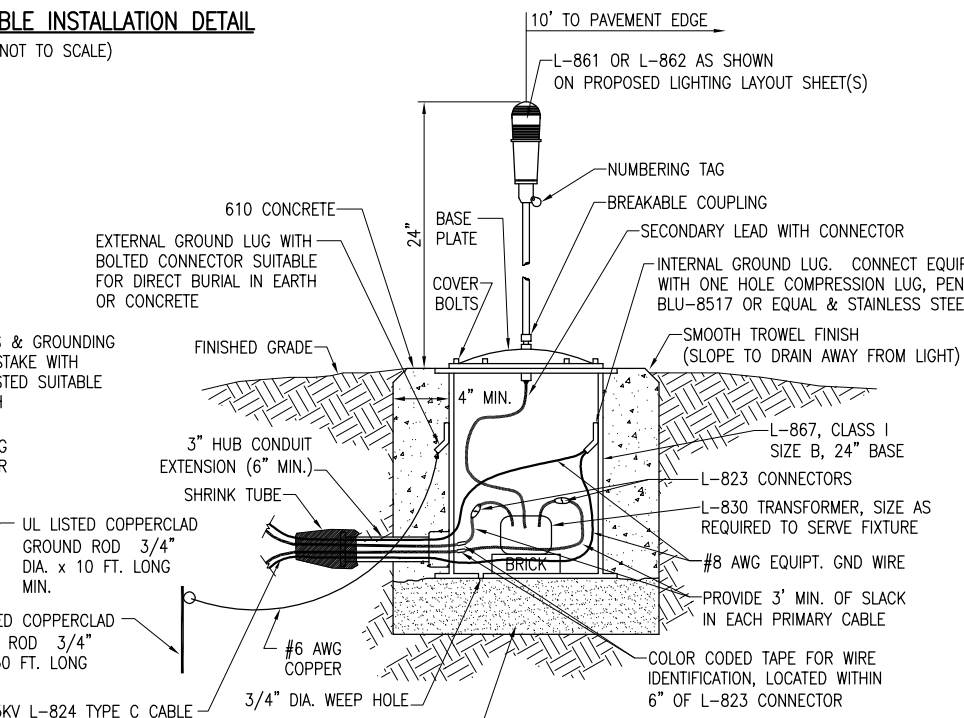


PROFILE VIEW

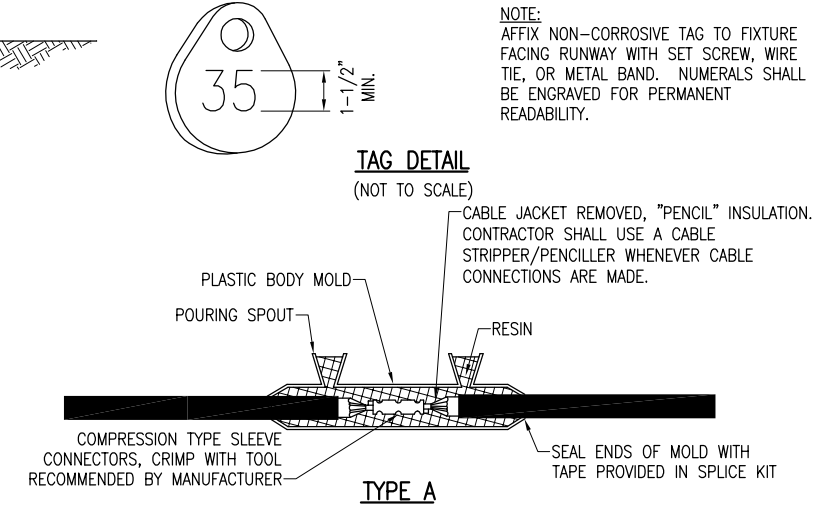
LIGHT AND CABLE INSTALLATION DETAIL
(NOT TO SCALE)



MEDIUM INTENSITY LIGHT - STAKE MOUNTED
(NOT TO SCALE)

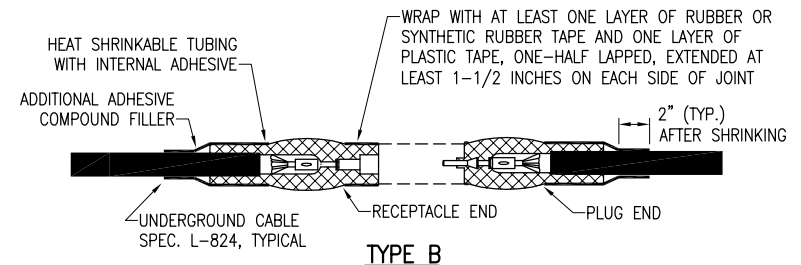


MEDIUM/HIGH INTENSITY LIGHT - BASE MOUNTED
(NOT TO SCALE)



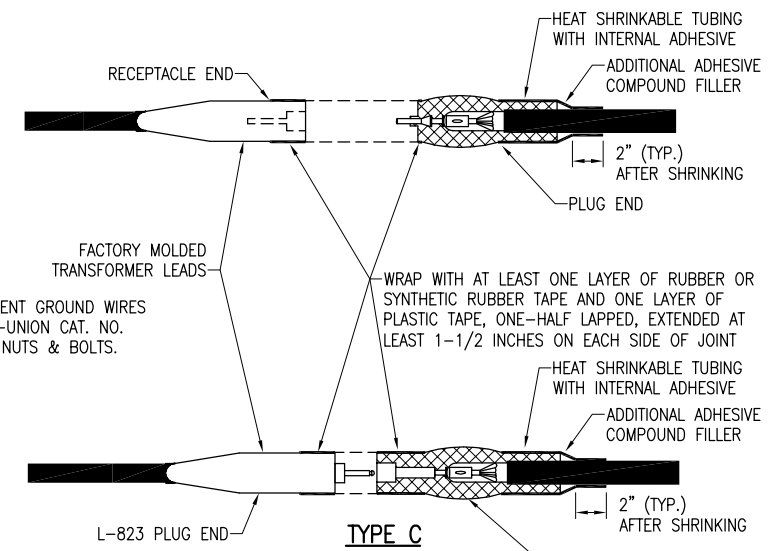
TYPE A

FOR SPLICES IN LOW VOLTAGE (600V) CABLE HOMERUNS FOR EXTENSIONS TO EXISTING CABLES ONLY. TYPE A SPLICES SHALL BE MADE IN SPLICE CANS, HANDHOLES, MANHOLES, OR JUNCTION BOXES.



TYPE B

FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT



TYPE C

FOR SPLICES AT RUNWAY LIGHTS

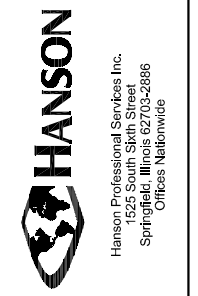
NOTES:
 SEE PROPOSED LIGHTING LAYOUT SHEET(S) FOR SPLICE TYPE.
 INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.

CABLE SPLICES
(NOT TO SCALE)

REVISION	DATE	BY

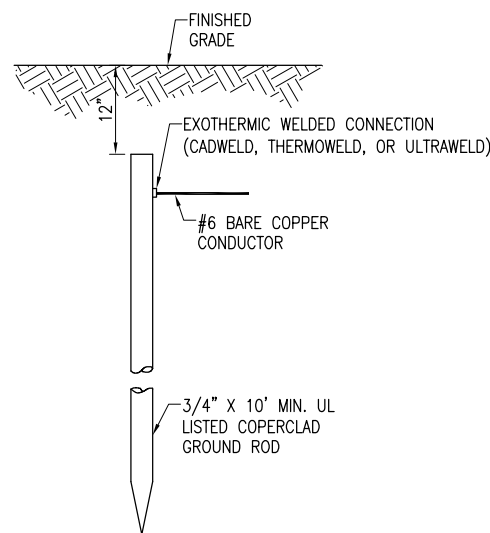
TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

Hanson Project No. 09A0033D_0800	CAH	03/24/09
Filename: R-542ELE.DWG	BAK	03/24/09
Scale: NOT TO SCALE	CAH	03/24/09
Date: 08/14/09		

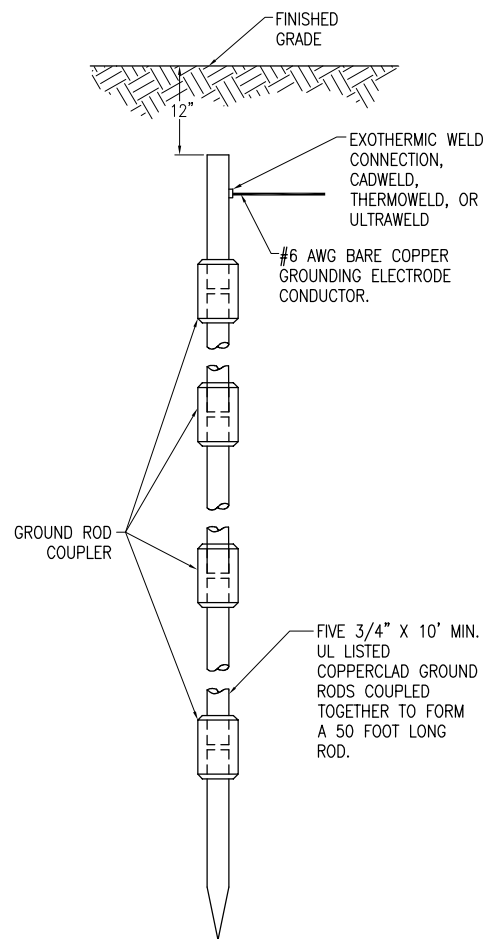


REPLACE MITL SYS.,
 INSTALL APRON LTS

PROPOSED
 ELECTRICAL DETAILS
 SHEET 2



10 FT. GROUND ROD
 (NOT TO SCALE)



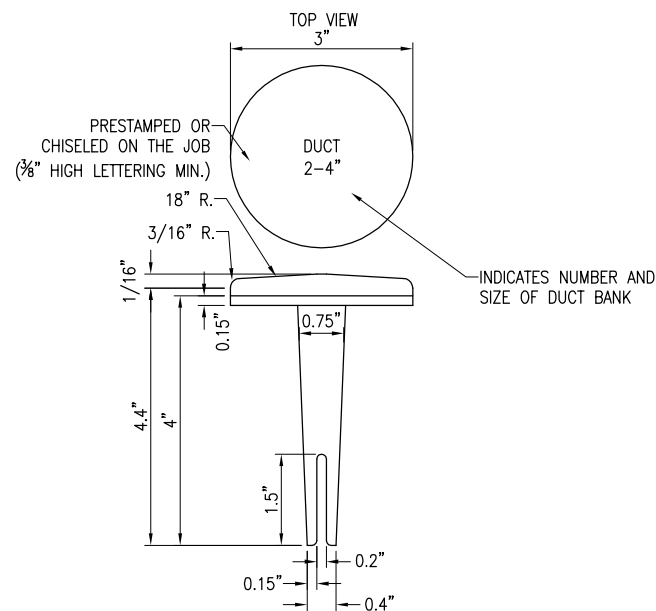
50 FT. GROUND ROD

NOTES FOR GROUND RODS

1. TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.
2. THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.
3. COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.
4. GROUND RODS SHALL BE SPACED AS DETAILED ON THE PLANS AND SHALL NOT BE SPACED LESS THAN ONE ROD LENGTH APART.

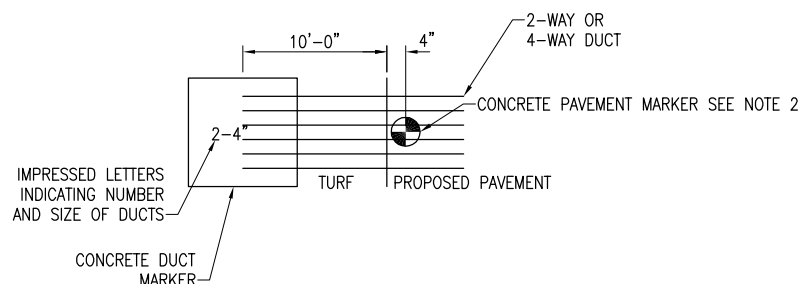
THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE 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. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND 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. FOR UTILITY INFORMATION AT 1-800-892-0123.

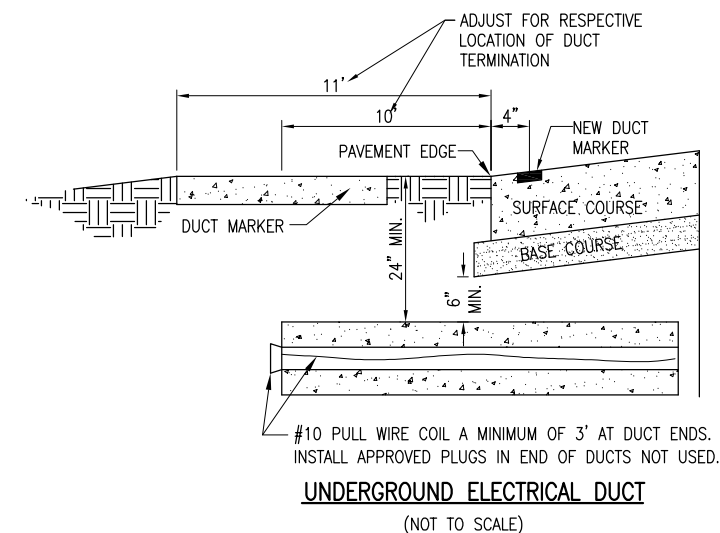


BITUMINOUS PAVEMENT DUCT MARKERS
 "NOT TO SCALE"

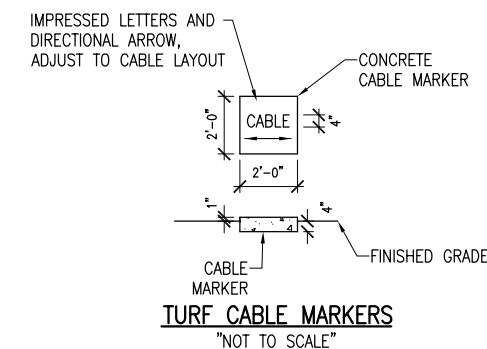
NOTE:
 TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE.



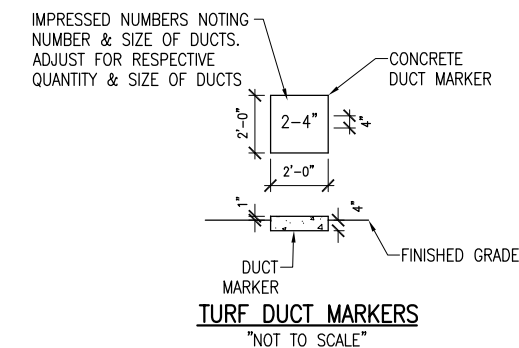
DUCT MARKER DETAIL
 "NOT TO SCALE"



UNDERGROUND ELECTRICAL DUCT
 (NOT TO SCALE)



TURF CABLE MARKERS
 "NOT TO SCALE"



TURF DUCT MARKERS
 "NOT TO SCALE"

NOTES:

1. THE COST OF ALL TURF AND PAVEMENT DUCT MARKERS SHALL BE INCIDENTAL TO THE DUCT. THE COST OF ALL CABLE MARKERS SHALL BE INCIDENTAL TO THE CABLE.
2. BITUMINOUS PAVEMENT DUCT MARKER OR CONCRETE DUCT MARKER TO BE PROVIDED AT EACH END OF EACH DUCT AS SHOWN ON THE LOCATION PLAN. FOR CONCRETE PAVEMENT, THE LETTER "D" SHALL BE IMPRESSED IN THE PAVEMENT INSTEAD OF THE MARKER. THE LETTER SHALL BE AS DESCRIBED IN NOTE 4.
3. CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE RUNS.
4. CONCRETE CABLE MARKERS AND DUCT MARKERS SHALL HAVE LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 1/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.

BY	
REVISION	
DATE	

TRI-TOWNSHIP AIRPORT
 SAVANNA, CARROLL COUNTY
 ILLINOIS

Hanson Project No. 09A0033D_0800	CAH	03/24/09
Filename R-545ELE.DWG	BAK	03/24/09
Scale NOT TO SCALE	CAH	03/24/09
Date 08/14/09		



REPLACE MITL SYS.,
 INSTALL APRON LTS
 PROPOSED
 ELECTRICAL DETAILS
 SHEET 3

GENERAL NOTES

- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 – NATIONAL ELECTRICAL CODE (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 WILL NOT BE PERMITTED.
- CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
- CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM, INCLUDING FAA APPROVED EQUIPMENT, ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
- IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATION, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
- THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
- WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE APPROVED.
- ANY AND ALL INSTRUCTIONS FROM THE ENGINEER TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE FAA FIELD OFFICE (ADO/AFO). THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
- A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:
 - A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
 - THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - INSTALLATION INSTRUCTION.
 - START-UP INSTRUCTIONS.
 - PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - CHART FOR TROUBLE-SHOOTING.
 - COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT – "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL DIFFERENT MODES.
 - PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
 - SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

- PROVIDE LEGEND PLATES FOR ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO IDENTIFY THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT AREA TO INSTALL LEGEND PLATES, THE LEGEND PLATES SHALL BE INSTALLED ON THE WALL NEXT TO THE UNIT. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.
- COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND RED SHALL BE USED FOR SINGLE-PHASE, THREE WIRE SYSTEMS AND BLACK, RED AND BLUE SHALL BE USED FOR THREE-PHASE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG OR KCMIL).
- ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.
- IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.
- LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
- NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
- THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
 - IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
 - IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
- A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.
- EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.
- SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
- CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
- DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
- ALL INTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT DIPPED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, WITH CORROSION RESISTANT HARDWARE.
- SUPPORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE HOT DIPPED GALVANIZED STEEL STRUT SUPPORT OR STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL HARDWARE. PROVIDE ZINC RICH PAINT APPLIED TO FIELD CUTS OF GALVANIZED STEEL SUPPORT TO MINIMIZE THE POTENTIAL FOR CORROSION PER THE RESPECTIVE STRUT SUPPORT MANUFACTURER'S RECOMMENDATIONS.

- CONDUITS FOR ELECTRIC SERVICE ENTRANCE AND FEEDERS SHALL BE AS DETAILED HEREIN ON THE PLANS. WHERE GALVANIZED RIGID STEEL CONDUIT IS SPECIFIED IT SHALL HAVE THREADED FITTINGS. SET SCREW TYPE FITTINGS WILL NOT BE ACCEPTABLE. CONDUITS FOR UNDERGROUND APPLICATIONS SHALL BE AS DETAILED HEREIN. CONDUITS FOR GROUNDING ELECTRODE CONDUCTORS OR INDIVIDUAL GROUNDING CONDUCTORS SHALL BE SCHEDULE 40 OR SCHEDULE 80 PVC.
- PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AT CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION OR WHERE FLEXIBILITY IS REQUIRED. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING, SUNLIGHT RESISTANT, AND RESISTANT TO OIL, GASOLINE, AND GREASE. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO MOTORS, TRANSFORMERS, & CONSTANT CURRENT REGULATORS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL LISTED.
- UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
- ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
- USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
- USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULATING TAPE (3M SCOTCH 23 ALL-VOLTAGE SPLICING TAPE, 3M SCOTCH 130C LINERLESS RUBBER SPLICING TAPE, OR APPROVED EQUAL) AND COVER WITH VINYL ELECTRICAL TAPE (3M SCOTCH 88 VINYL ELECTRICAL TAPE OR APPROVED EQUAL) FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
- UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINIMUM.
- THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
 - FOR INTERIOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 12 (DUST TIGHT) ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. FOR EXTERIOR/OUTDOOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 4X STAINLESS STEEL ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. ALL CONDUIT ENTRIES INTO NEMA 4, 4X ENCLOSURES SHALL HAVE NEMA 4 HUBS LISTED SUITABLE FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE.
 - THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
 - WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.
 - ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
 - EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
 - A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
 - THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
 - ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
- FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH METER SOCKET, SERVICE DISCONNECT, SAFETY SWITCH, CUTOUT, PANELBOARD, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION".

DATE	REVISION	BY

TRI-TOWNSHIP AIRPORT
SAVANNA, CARROLL COUNTY
ILLINOIS

IL. PROJ.: SFY-3932 A.I.P. PROJ.: 3-17-09-1-B15

Hanson Project No. 09A0033D_0800	FILENAME E-002.DWG	LAYOUT	KNL	07/31/09
Scale NOT TO SCALE	Date 08/14/09	DRAWN	MV	07/31/09
		REVIEWED	CAH	07/31/09



REPLACE MITL SYS.,
INSTALL APRON LTS

PROPOSED
ELECTRICAL NOTES
SHEET 1

SEP 21, 2009 11:43 AM HAGL000362
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AIRFIELD LIGHTING NOTES

1. UNLESS OTHERWISE NOTED, ALL UNDERGROUND AIRFIELD LIGHTING SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED 5000 VOLT L-824 TYPE. ALL UNDERGROUND FIELD POWER LOW VOLTAGE (600 VOLT & BELOW) CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE UL LISTED 600 VOLT, TYPE XLP-USE-2 COPPER CONDUCTORS. CONDUCTOR SIZES SHALL BE AS SPECIFIED, HEREIN.
2. NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL, PAPI, ETC.
3. THERE SHALL BE NO EXPOSED POWER/CONTROL CABLES BETWEEN THE POINT WHERE THEY LEAVE THE UNDERGROUND (DEB OR L-867 BASES) AND WHERE THEY ENTER THE EQUIPMENT (SUCH AS TAXIWAY SIGNS, PAPI, REIL, ETC.) ENCLOSURES. THESE CABLES SHALL BE ENCLOSED IN RIGID CONDUIT OR IN FLEXIBLE, WATERTIGHT CONDUIT WITH BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN IN APPLICABLE DETAILS.
4. THE JOINTS OF THE L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1-1/2 INCHES ON EACH SIDE OF THE JOINT, AS SHOWN ON SHEET NO. 17.
5. THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT-SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE, AS SHOWN ON SHEET NO. 17.
6. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
7. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND PAPI/REIL EQUIPMENT.
8. ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPED.
9. DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE RUNWAY/TAXIWAY.
10. A SLACK OF THREE (3') FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE-MOUNTED LIGHTS, THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION TRANSFORMER.
11. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
12. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1-1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.
15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTIGHT SEAL.
16. TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
17. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.
19. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.

20. ENTRANCES INTO L-867 BASES SHALL HAVE CONDUIT COUPLINGS OR REDUCERS TO INTERFACE UNIT DUCT/CONDUIT TO L-867 BASE HUBS, OR SHALL BE SEALED WITH HEAT SHRINK AS SHOWN IN DETAIL "B" ON SHEET NO. 16.
21. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE GALVANIZING.
22. EDGE LIGHT NUMBERING TAGS SHALL BE FACING THE PAVEMENT.
23. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
24. ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLES.
25. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
26. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
27. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS.
28. WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED, THE "T" SPLICES SHALL BE OF THE CAST TYPE.
29. CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKINGS, ETC. SHALL BE 3000 PSI, AIR-ENTRAINED.
30. ALL POWER AND CONTROL CABLES IN MAN/HAND HOLES SHALL BE TAGGED. USE EMBOSSED COPPER STRIPS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MAN/HAND HOLE-ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT.
31. 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 THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE 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. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND 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. FOR UTILITY INFORMATION AT 1-800-892-0123. ALSO CONTACT AIRPORT MANAGER AND/OR RESPECTIVE AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. CONTACT FAA FOR ASSISTANCE IN LOCATING THEIR CABLES.
32. WHEN PREPARING CABLE FOR SPLICES, THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE.

GROUNDING NOTES FOR AIRFIELD LIGHTING

1. GROUNDING FOR RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS SHALL BE AS DETAILED ON THE PLANS AND AS SPECIFIED HEREIN. PER FAA AC 150/5340-30D DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6; A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. THE PURPOSE OF THE SAFETY GROUND IS TO PROTECT PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE AS THE RESULT OF A SHORTED CABLE OR ISOLATION TRANSFORMER. A SAFETY GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A SAFETY GROUND SHALL ALSO BE INSTALLED AT EACH STAKE MOUNTED LIGHT FIXTURE. THE SAFETY GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A UL LISTED COPPER CLAD GROUND ROD. THE GROUND RODS FOR STAKE MOUNTED LIGHTS SHALL BE 3/4-INCH DIAMETER BY 10-FOOT LONG. THE GROUND RODS FOR BASE CANS SHALL BE 3/4-INCH DIAMETER BY 50-FOOT LONG (5-10 FT. GROUND RODS COUPLED TOGETHER). ALL MOUNTING STAKES AND BASE CANS ASSOCIATED WITH THE TAXIWAY LIGHTING SYSTEM SHALL BE BONDED TOGETHER WITH A #8 AWG EQUIPMENT GROUND WIRE RUN WITH THE 5000 VOLT SERIES CIRCUIT CONDUCTOR. CONNECTIONS TO GROUND LUGS ON THE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE SHALL BE WITH A UL LISTED GROUNDING CONNECTOR. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY ERICO PRODUCTS, INC., SOLON, OHIO, (PHONE: 800-248-9353), THERMOWELD BY CONTINENTAL INDUSTRIES, INC., TULSA, OKLAHOMA (PHONE: 918-663-1440) OR ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE: 800-842-7437). EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS. TOP OF GROUND RODS SHALL BE BURIED 12 INCHES MINIMUM BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS.
2. CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS. METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL PER 2008 NATIONAL ELECTRICAL CODE ARTICLE 250-12.
3. PER FAA 150/5340-30D THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS. THE GROUNDING REQUIREMENTS DESCRIBED IN NOTE 1 ABOVE ARE TO COMPLY WITH THE REQUIREMENTS OF FAA AC 150/5340-30D, AND TO ACCOMMODATE THE SANDY SOIL CONDITIONS AT THE AIRPORT. CONTRACTOR SHALL PERFORM GROUND RESISTANCE TESTS AND PROVIDE TEST RESULTS TO RESIDENT ENGINEER. TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE RESIDENT ENGINEER.

DATE	REVISION	BY

TRI-TOWNSHIP AIRPORT
SAVANNA, CARROLL COUNTY
ILLINOIS

I.L. PROJ.: SFY-3932
 A.I.P. PROJ.: 3-17-09-091-B15

Hanson Project No. 09A0033D_0800	File Name E-003.DWG	Scale NOT TO SCALE	Date 08/14/09
LAYOUT	KNL	07/31/09	
DRAWN	MV	07/31/09	
REVIEWED	CAH	07/31/09	



REPLACE MITL SYS.,
INSTALL APRON LTS

PROPOSED
ELECTRICAL NOTES
SHEET 2

SEP 21, 2009 11:44 AM HAGL000362 I:\AIRPORTS\SAVANNA\09A0033\AIRPORT\SHEETS\E-003.DWG - Work