

# CONSTRUCTION PLANS

## FOR

# MT. VERNON AIRPORT

### MT. VERNON, JEFFERSON COUNTY, ILLINOIS

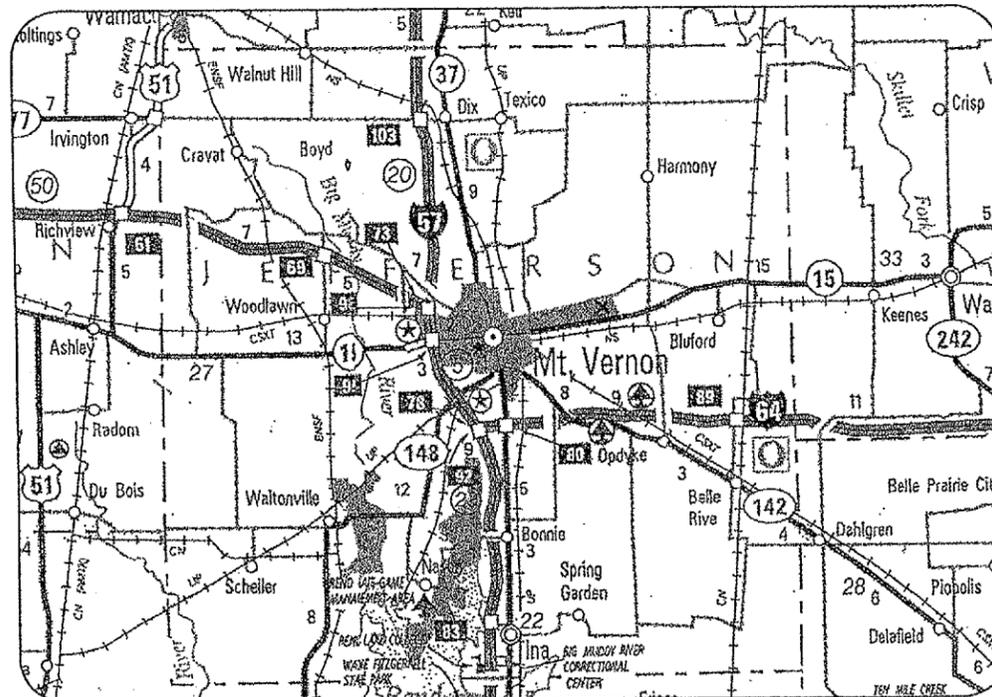
## RUNWAY 15-33: POROUS FRICTION COURSE OVERLAY

SCOPE OF WORK

BASE BID: CONSISTS OF APPLYING A POROUS FRICTION COURSE OVERLAY (0.10 FT) TO RUNWAY 15-33. ASSOCIATED WORK INCLUDES REMOVAL AND REPLACEMENT OF BITUMINOUS PAVEMENT, CRACK CLEANING AND SEALING, PAVEMENT MARKING, TOPSOILING, SEEDING, MULCHING, AND A LIGHTED WIND CONE AND ASSOCIATED CABLE IN UNIT DUCT INSTALLATION.

ADDITIVE ALTERNATE 1: CONSISTS OF THE INSTALLATION OF ELECTRICAL EQUIPMENT IN THE FBO HANGAR BUILDING, INCLUDING GROUNDING UPGRADES AND ADDITION OF SURGE PROTECTION.

ADDITIVE ALTERNATE 2: CONSISTS OF THE INSTALLATION OF ELECTRICAL EQUIPMENT TO FENCE GATES AND IN THE TERMINAL BUILDING, INCLUDING GROUNDING UPGRADES AND ADDITION OF SURGE PROTECTION.



### LOCATION

ILL. PROJ.: MVN-3539  
 A.I.P. PROJ.: 3-17-0074-B12  
 LATITUDE: 38° 19' 24"  
 LONGITUDE: 88° 51' 30"  
 ELEVATION: 480.0' M.S.L.  
 DATE: DEC. 16, 2005



Hanson Professional Services Inc.  
ELECTRICAL ENGINEER

Submitted by: *Kevin N. Lightfoot* ENG'R  
 Date Submitted: 1/20/2006  
 Lics. Exp. Date: 11/30/2007

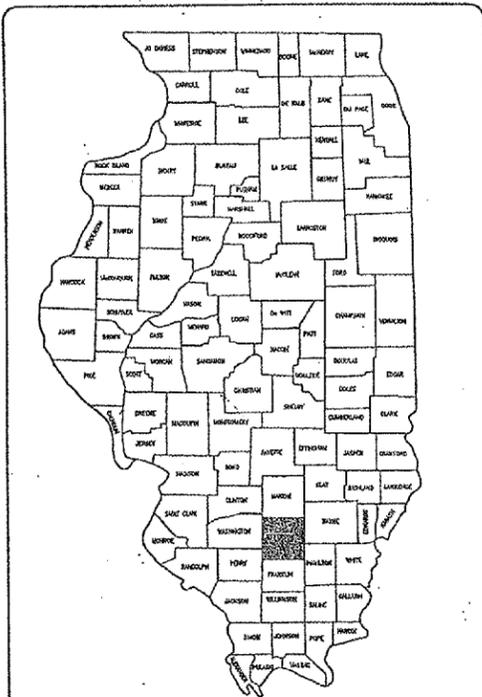


Hanson Professional Services Inc.  
AIRPORT ENGINEER

Submitted by: *Robert A. Waller* ENG'R  
 Date Submitted: 01/20/2006  
 Lics. Exp. Date: 11/30/2007

MT. VERNON AIRPORT AUTHORITY

Approved: *[Signature]* CHAIRMAN  
 Date: 1/17/06  
 Approved: *[Signature]* SECRETARY  
 Date: 1-18-06



LOCATION OF COUNTY

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F:\AIRPORTS\MTVERNON\B19-06R19\AIRPORT SHEETS\R-001CVR.DWG - COVER

REVISION					
DATE					
MT. VERNON AIRPORT MT. VERNON, ILLINOIS A.I.P. PROJ.: 3-17-0074-B12 ILL. PROJ.: MVN-3539					
ILL. PROJ. No.	819-06R19D	DATE	08/16/05	DRAWN	CCC
PROJECT	R-001CVR.DWG	DATE	08/16/05	DRAWN	CCC
SCALE	N/A	DATE	08/16/05	REVIEWED	RAW
LAYOUT	CCC	DATE	08/16/05	REVIEWED	RAW
HANSON Hanson Professional Services Inc. 4525 South Sixth Street Springfield, Illinois 62703-2886 Offices Nationwide					
RUNWAY 15-33 P.F.C. OVERLAY COVER SHEET					
1 1 of 29 sheets					



**SCOPE OF WORK**

BASE BID: CONSISTS OF APPLYING A POROUS FRICTION COURSE OVERLAY (0.10 FT) TO RUNWAY 15-33. ASSOCIATED WORK INCLUDES REMOVAL AND REPLACEMENT OF BITUMINOUS PAVEMENT, CRACK CLEANING AND SEALING, PAVEMENT MARKING, TOPSOILING, SEEDING, MULCHING, AND A LIGHTED WIND CONE AND ASSOCIATED CABLE IN UNIT DUCT INSTALLATION.

ADDITIVE ALTERNATE 1: CONSISTS OF THE INSTALLATION OF ELECTRICAL EQUIPMENT IN THE FBO HANGAR BUILDING, INCLUDING GROUNDING UPGRADES AND ADDITION OF SURGE PROTECTION.

ADDITIVE ALTERNATE 2: CONSISTS OF THE INSTALLATION OF ELECTRICAL EQUIPMENT TO FENCE GATES AND IN THE TERMINAL BUILDING, INCLUDING GROUNDING UPGRADES AND ADDITION OF SURGE PROTECTION.

**AIRPORT SECURITY NOTE**

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

**HEIGHT OF CONSTRUCTION EQUIPMENT**

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

**HAUL ROUTE AND VEHICLE PARKING**

THE CONTRACTOR WILL USE THE EXISTING DESIGNATED PAVED/TURF HAUL ROUTE AND PARKING AREA AS SHOWN ON THIS SHEET. THE PROPOSED PARKING AREA WILL BE 150' 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 ALL DISTURBED AREAS AND PARKING AREAS (WHERE APPLICABLE) AS NEEDED TO RESTORE IT TO ITS ORIGINAL STATE. MAINTENANCE OF THE HAUL ROUTE AND RESTORATION OF THE PARKING AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. SEE ITEM AR150540 - HAUL ROUTE IN THE SPECIAL PROVISIONS FOR ADDITIONAL CLARIFICATION.

**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.

THE CONTRACTOR WILL BE REQUIRED TO LIMIT THE USE OF CONSTRUCTION EQUIPMENT ON ANY EXISTING PAVEMENTS. ONLY THAT EQUIPMENT NEEDED TO COMPLETE THE SPECIFIC WORK ON EXISTING PAVEMENTS WILL BE ALLOWED. NO EXCESSIVE TRAFFIC ACROSS THESE PAVEMENTS WILL BE PERMITTED. ANY DAMAGE TO THE EXISTING PAVEMENTS WILL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE CONTRACT.

THE CONTRACTOR SHALL KEEP RUNWAY 5-23 OPEN AT ALL TIMES OTHER THAN WHEN WORKING WITHIN 200' OF THE RUNWAY 5-23 CENTERLINE AND MAINTAIN CONTINUOUS TAXIWAY ACCESS TO ALL HANGARS AND ADMINISTRATIVE AREAS.

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

**FLAG PERSONS**

WHENEVER THE NE-SW (5-23) RUNWAY IS OPEN AND THE CONTRACTOR IS CONDUCTING CONTINUOUS HAULING OPERATIONS ACROSS THIS ACTIVE RUNWAY, THE CONTRACTOR WILL FURNISH TWO FLAG PERSONNEL TO CONTROL THE VEHICLES CROSSING RUNWAY 5-23. ALL VEHICLES MUST COME TO A COMPLETE HALT PRIOR TO BEING DIRECTED ACROSS THE ACTIVE RUNWAY BY THE FLAG PERSONNEL.

WHENEVER TAXIWAY "A" IS CAPABLE OF BEING UTILIZED, AND THE CONTRACTOR IS CONDUCTING CONTINUOUS HAULING OPERATIONS ON OR ACROSS THIS ACTIVE TAXIWAY, THE CONTRACTOR WILL FURNISH A SINGLE FLAG PERSON TO CONTROL THE VEHICLES UTILIZING TAXIWAY "A". ALL VEHICLES MUST COME TO A COMPLETE HALT PRIOR TO BEING DIRECTED ON TO OR ACROSS THE ACTIVE TAXIWAY BY THE FLAG PERSONNEL.

ALL FLAG PERSONNEL WILL BE EQUIPPED WITH A TWO-WAY RADIO (CHANNEL 123.0 MHz.) FOR MONITORING THE AIRPORT RADIO FREQUENCY. THEY ALSO SHALL BE IN CONTACT WITH EACH OTHER USING WALKIE-TALKIES, AND HAVE STOP AND GO SIGNS. THE FLAG PERSONNEL SHALL BE LOCATED AS SHOWN ON THIS SHEET.

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.

**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.

**CRITICAL POINT DATA**

CRITICAL POINT 1  
LATITUDE: 38° 19' 23.74"  
LONGITUDE: 88° 51' 34.49"  
ELEVATION: 468' M.S.L.

CRITICAL POINT 2  
LATITUDE: 38° 19' 20.26"  
LONGITUDE: 88° 51' 31.95"  
ELEVATION: 468' M.S.L.

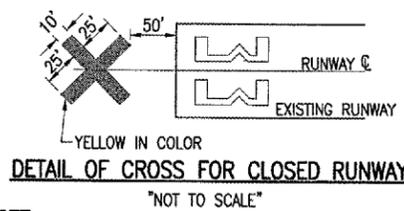
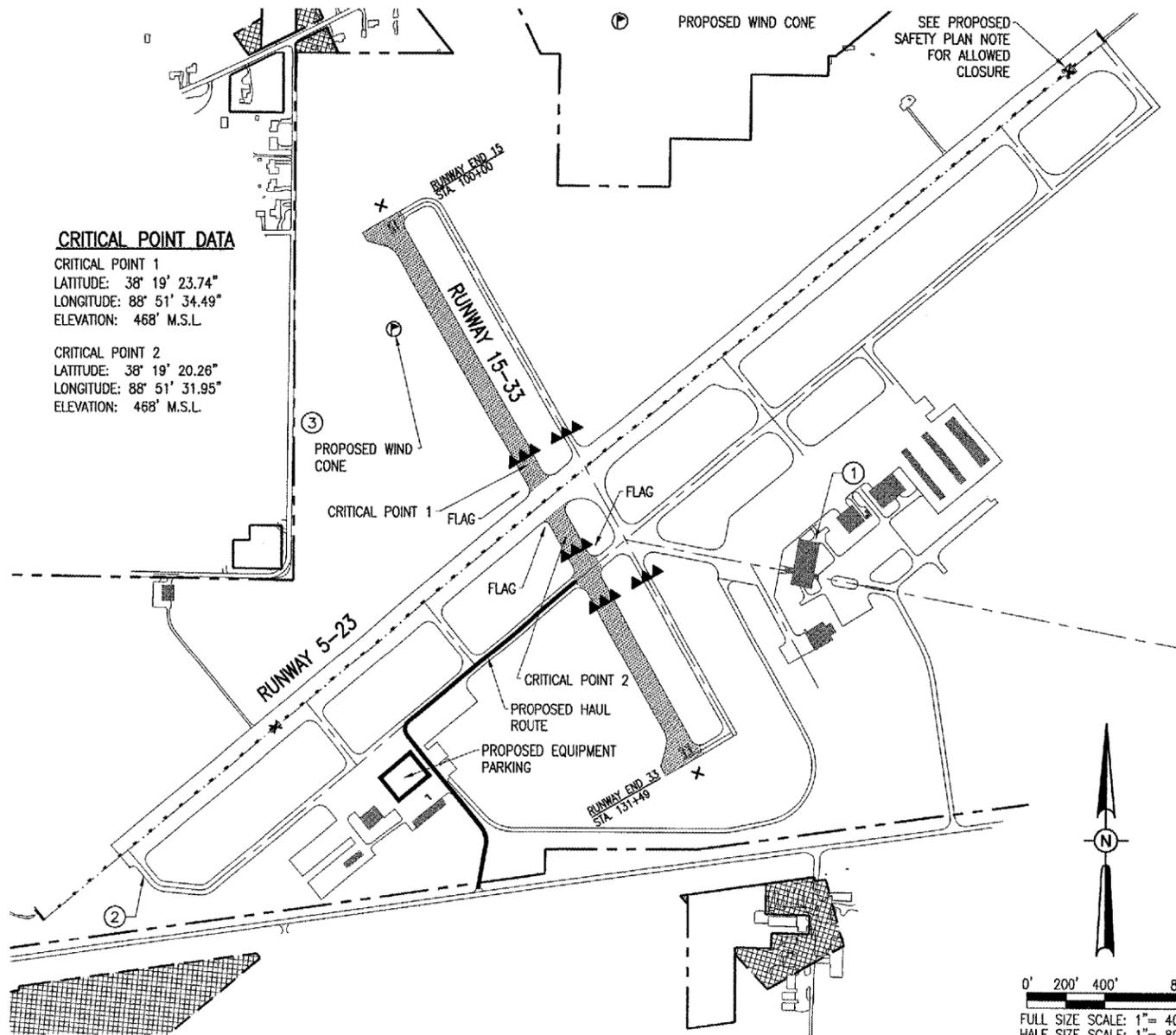
BENCHMARK DATA		
NO.	DESCRIPTION	ELEVATION
1	BRASS DISC IN THE CENTER OF THE SIDEWALK ON THE NORTH SIDE OF TERMINAL BUILDING	463.65
2	BRASS DISC 100.4' SE OF RUNWAY END 5 CORNER, 29.4' SW OF SW EDGE OF TAXIWAY	463.57
3	BRASS DISC 82' E. OF THE N-S PAVED ROAD CL, 3' S. OF HOUSE DRIVEWAY CL	456.42

**EROSION CONTROL**

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

**LEGEND**

- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- EXISTING BUILDINGS
- PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA
- PROPOSED BENCHMARK
- PROPOSED BARRICADES OR TRAFFIC CONES
- PROPOSED FLAG PERSON LOCATION
- PROPOSED WIND CONE



**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: JEFFERSON  
CITY: MT. VERNON  
TOWNSHIP: MT. VERNON  
SECTION NO.: 22, 23, 26 & 27  
ADDRESS: MT. VERNON AIRPORT AUTHORITY  
R.R. #4  
MT. VERNON, ILLINOIS 62864

**PROPOSED SAFETY PLAN**

GENERAL - THE MT. VERNON AIRPORT IS COMPRISED OF TWO RUNWAYS. THE PROPOSED CONSTRUCTION WILL NECESSITATE CLOSING BOTH RUNWAYS AT VARIOUS TIMES. ANY TIME THE CONTRACTOR IS WORKING WITHIN 200' OF THE RUNWAY CENTERLINE OR 100' OF A TAXIWAY CENTERLINE, THE RUNWAY OR TAXIWAY WILL BE CLOSED. RUNWAY 5-23 WILL BE CLOSED ONLY DURING THE CONSTRUCTION DAY. RUNWAY 15-33 WILL BE CLOSED FOR THE DURATION OF THE PROJECT. ALL WORK INCLUDED IN OPENING AND CLOSING A 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 (123.00 MHz.) WITH THE AIRPORT UNICOM. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE MT. VERNON 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 PROPOSED ENGINEER'S FIELD OFFICE WILL BE FURNISHED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH ITEM AR150510 "ENGINEER'S FIELD OFFICE" AS STATED ON PAGE 168 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THE LOCATION OF THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.

THE ENGINEERING FIRM WILL MAKE PAYMENT FOR ALL LONG DISTANCE TELEPHONE CALLS IN EXCESS OF ONE HUNDRED DOLLARS (\$100.00) PER MONTH.

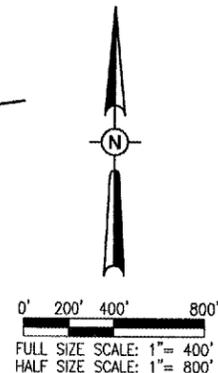
THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE PAID FOR UNDER ITEMS:  
AR150510 ENGINEER'S FIELD OFFICE \_\_\_\_\_ 1 L.S.

**AIRCRAFT OPERATION LINE**

THE CONTRACTOR WILL LOCATE THIS LINE 200' PARALLEL FROM EACH RUNWAY CENTERLINE WITHIN THE PROJECT AREA AT THE START OF CONSTRUCTION AND WILL PLACE FLAGGED LATHE EVERY 150' ALONG IT. THIS LINE WILL BE THE LIMITS THAT ALL CONTRACTOR PERSONNEL MAY VENTURE WHEN A RUNWAY IS NOT CLOSED. THE CONTRACTOR WILL MAINTAIN THE LATHE LINE FOR RUNWAYS 5-23 AND 15-33 FOR THE DURATION OF THE PROJECT.

**BARRICADES AND TRAFFIC CONES**

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT DIRECTOR. THE BARRICADES WILL BE EQUIPPED WITH RED FLASHING OR 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.



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MV054

DATE	REVISION

MT. VERNON AIRPORT  
P.F.C. OVERLAY  
PROPOSED SAFETY PLAN

MT. VERNON, ILLINOIS

IL PROJ.: MW-3539 A.I.P. PROJ.: 3-17-0074-B12

DATE	BY	REVISION
08/16/05	CCC	08/16/05
08/16/05	CCC	08/16/05
08/16/05	RAW	08/16/05

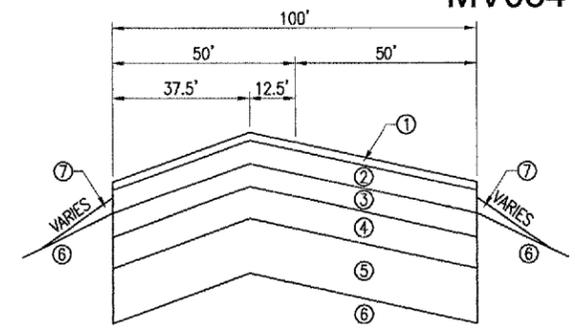
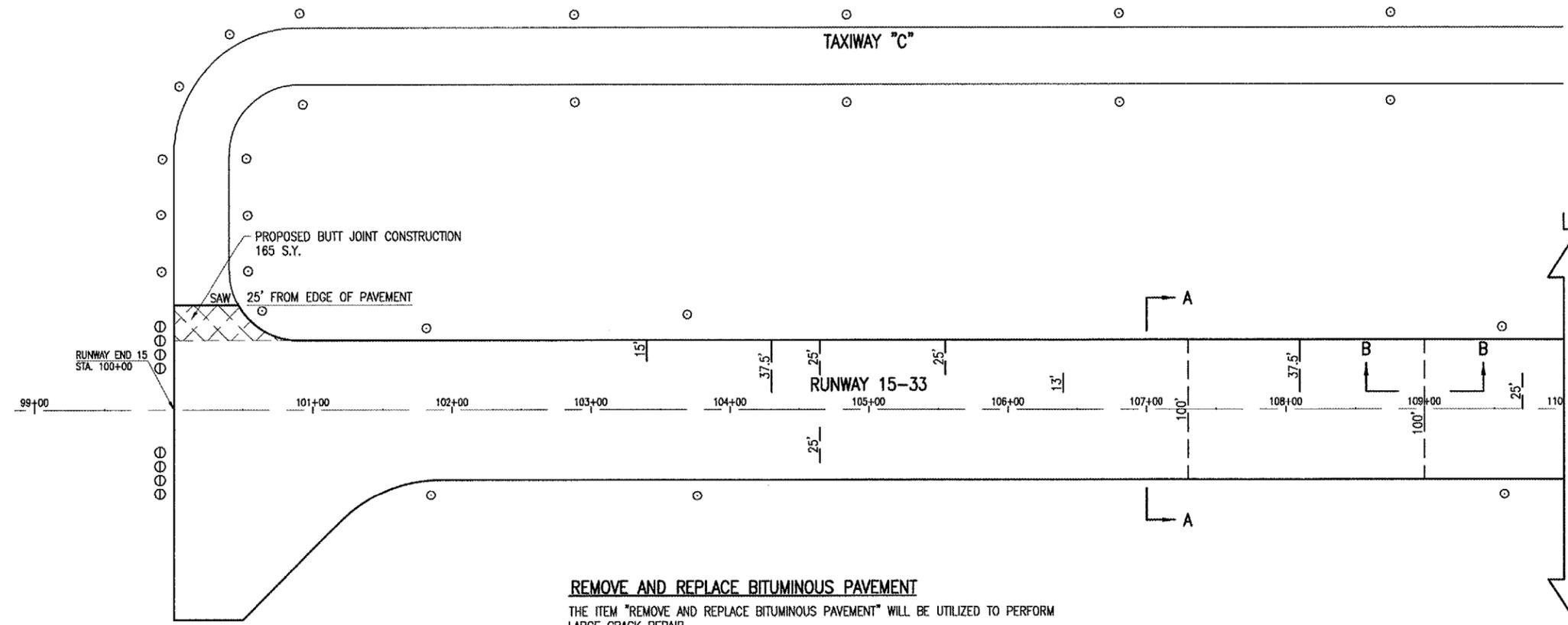
**HANSON**

Hanson Professional Services Inc.  
1925 South Sixth Street  
Springfield, Illinois 62703-2806  
Chicago Nationwide

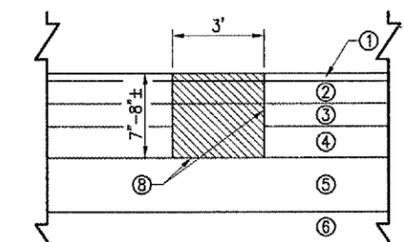
RUNWAY 15-33  
P.F.C. OVERLAY  
PROPOSED SAFETY PLAN

**3**

3 of 29 sheets



TYPICAL SECTION A-A  
"NOT TO SCALE"



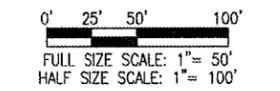
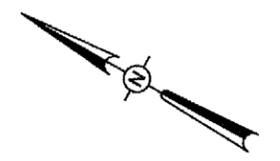
TYPICAL SECTION B-B  
"NOT TO SCALE"

**LEGEND FOR EXISTING TYPICAL SECTION**

- ① EXISTING POROUS FRICTION COURSE (5/8" DEPTH)
- ② EXISTING BITUMINOUS SURFACE COURSE (2"± DEPTH)
- ③ EXISTING BITUMINOUS BASE COURSE (2"± DEPTH)
- ④ EXISTING BITUMINOUS SURFACE COURSE (3"± DEPTH)
- ⑤ EXISTING AGGREGATE BASE COURSE (9 - 10" DEPTH)
- ⑥ EXISTING EARTH SUBGRADE
- ⑦ EXISTING EARTH FILLETS
- ▨ PROPOSED 401 BITUMINOUS SURFACE COURSE MATERIAL (2", 3", AND 3" DEPTHS, RESPECTIVELY, INCIDENTAL TO ITEM AR401910)
- ⑧ PROPOSED 603 BITUMINOUS TACK COAT (AS NEEDED, INCIDENTAL TO ITEM AR401910)

**LEGEND**

- ▭ EXISTING PAVEMENT
- ▨ PROPOSED BUTT JOINT CONSTRUCTION
- PROPOSED REMOVE & REPLACE BITUMINOUS PAVEMENT
- ⊙ EXISTING THRESHOLD LIGHTS
- EXISTING RUNWAY/TAXIWAY LIGHTS



**REMOVE AND REPLACE BITUMINOUS PAVEMENT**

THE ITEM "REMOVE AND REPLACE BITUMINOUS PAVEMENT" WILL BE UTILIZED TO PERFORM LARGE CRACK REPAIR.

THE QUANTITY OF CRACKS TO BE REPAIRED WAS ESTABLISHED BY THE COMPLETION OF A CRACK SURVEY (AUG. 2005), AND CONSISTS OF THOSE CRACKS FOUND TO BE GREATER THAN ONE INCH IN WIDTH AT THE TIME OF THE SURVEY, AND EXHIBITING ROLLED EDGES. ALL CRACKS TO RECEIVE REPAIR SHALL BE LOCATED AND MARKED BY THE RESIDENT ENGINEER.

THE CRACKS SHALL BE REMOVED FROM THE PAVEMENT BY ONE OF TWO METHODS, OR A COMBINATION OF THE TWO. THE FIRST ALTERNATIVE IS TO SAWCUT THE WIDTH OF THE AREA TO BE REPAIRED BY USING A WHEEL SAW AND REMOVE THE PAVEMENT TO THE SPECIFIED DEPTH USING A BACKHOE OR OTHER MECHANICAL MEANS. THE SECOND ALTERNATIVE IS TO USE A SKID STEER (OR EQUIVALENT) MOUNTED MILLING HEAD TO REMOVE THE PAVEMENT TO THE REQUIRED DEPTH. REGARDLESS OF THE METHOD USED TO REMOVE THE PAVEMENT, THE EDGE OF THE TRENCH FORMED WILL HAVE A VERTICAL FACE PRIOR TO THE PLACEMENT OF THE BITUMINOUS MATERIAL. THE WIDTH OF REPAIR WILL BE 3' WIDE, CENTERED ON THE CRACK. THE DEPTH OF REPAIR WILL BE THE FULL DEPTH OF THE EXISTING PAVEMENT, 7 TO 8 INCHES ±.

THE CONTRACTOR WILL DISPOSE OF THE EXCAVATED MATERIAL OFF THE AIRPORT SITE AT NO ADDITIONAL COST TO THE CONTRACT.

THE BOTTOM OF THE TRENCH WILL BE CLEANED AND COMPACTED TO PREVENT FUTURE SETTLEMENT, AND ACCEPTED BY THE RESIDENT ENGINEER. ONCE THE TRENCH IS CLEANED, THE BASE AGGREGATE COMPACTED, AND ACCEPTED, AN APPLICATION OF BITUMINOUS TACK MATERIAL WILL BE APPLIED TO THE VERTICAL BITUMINOUS FACE AND THE AGGREGATE BASE. THE REPAIR TRENCH WILL BE BACKFILLED WITH BITUMINOUS SURFACE COURSE MATERIAL (401), IN 3 LIFTS OF 2 INCHES, 3 INCHES, AND 3 INCHES, RESPECTIVELY. THE FINAL LIFT SHALL BE FLUSH WITH THE SURFACE OF THE EXISTING BITUMINOUS PAVEMENT OR THE CONTRACTOR WILL BE REQUIRED TO MILL THE FINAL LIFT FLUSH AT HIS EXPENSE. EACH LIFT SHALL BE COMPACTED AND ACCEPTED BY THE RESIDENT ENGINEER.

ANY DAMAGE TO THE EXISTING ADJACENT PAVEMENT WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. THE QUANTITY OF PAVEMENT REMOVAL, MILLING AND/OR SAWCUTS, IF UTILIZED, TACK MATERIAL, AND BITUMINOUS SURFACE COURSE MATERIAL (401) NECESSARY TO COMPLETE THIS TASK WILL BE CONSIDERED INCIDENTAL TO THE TASK, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE QUANTITY OF BITUMINOUS CRACK REPAIR TO BE PAID FOR SHALL BE THE NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED, IN ACCORDANCE WITH THE SPECIAL PROVISIONS, CONSTRUCTION DRAWINGS, AND ACCEPTED BY THE ENGINEER. MEASUREMENT OF BITUMINOUS CRACK REPAIR FOR PAYMENT SHALL BE TO THE NEAREST SQUARE YARD.

PAYMENT FOR THIS ITEM OF WORK WILL BE UNDER ITEM:  
AR401910 "REMOVE AND REPLACE BITUMINOUS PAVEMENT" - PER SQUARE YARD

**CLEANING AND SEALING BITUMINOUS CRACKS**

FOLLOWING A VISUAL SURVEY OF THE EXISTING RUNWAY SURFACE, A PROPOSED PLAN QUANTITY OF 13,000 LINEAR FEET OF CRACK CLEANING AND SEALING WAS ESTABLISHED. THE EXACT AMOUNT OF CRACKS TO BE CLEANED AND SEALED WILL BE THE NUMBER OF LINEAR FEET OF CRACKS MARKED BY THE RESIDENT ENGINEER.

ALL CRACKS DESIGNATED BY THE RESIDENT ENGINEER FOR CLEANING AND SEALING WILL BE DONE SO AS DESCRIBED IN THE RECURRING SPECIAL PROVISIONS, DATED JULY 1 2004.

THIS ITEM OF WORK WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAR FOOT OF CLEANING AND SEALING CRACKS, COMPLETE; WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR ALL ROUTING, CLEANING, PREPARATION AND DISPOSAL OF ALL LOOSE MATERIALS; AND FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

PAYMENT FOR THIS ITEM OF WORK WILL BE UNDER ITEM:  
AR201661 "CLEAN & SEAL BITUMINOUS CRACKS" - PER LINEAR FOOT.

QUANTITIES - PAVEMENT PREPARATION				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS BUILT QUANTITY
AR201661	CLEAN & SEAL BITUMINOUS CRACKS	L.F.	13,000	
AR401655	BUTT JOINT CONSTRUCTION	S.Y.	2,186	
AR401910	REMOVE AND REPLACE BITUMINOUS PAVEMENT	S.Y.	350	

**BUTT JOINT CONSTRUCTION NOTES:**

THE PAVEMENT AREAS DESIGNATED AS ▨ ON THESE DRAWINGS SHALL BE CUT OR MILLED TO ACCOMMODATE THE PROPOSED POROUS FRICTION COURSE OVERLAY. THIS ITEM WILL BE COMPLETED AS DETAILED IN THE SPECIAL PROVISIONS.

THE EXISTING PAVEMENT WILL BE SAWED AT THE LOCATIONS SHOWN ON THESE PLANS. THE SAWING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO "BUTT JOINT CONSTRUCTION" AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL MILLED MATERIAL WILL BE DISPOSED OF BY THE CONTRACTOR, OFF THE AIRPORT SITE, UNLESS OTHERWISE DIRECTED BY THE AIRPORT DIRECTOR AT THE TIME OF CONSTRUCTION.

ANY ADJACENT PAVEMENT OR EQUIPMENT THAT IS DAMAGED BY THE MILLING OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S OWN EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

PRIOR TO THE APPLICATION OF THE PFC OVERLAY, ALL MILLED AREAS WILL BE BROOMED AND BLOWN CLEAN OF LOOSE MATERIALS AND DEBRIS. A BITUMINOUS TACK COAT WILL BE APPLIED ACCORDING TO THE SUPPLEMENTAL SPECIFICATIONS FOR ITEM 603 DATED JULY 1, 2004 AT A RATE OF 0.25 GAL/SY. THE VERTICAL FACE OF ALL SAW CUTS WILL BE PAINTED WITH A LIQUID ASPHALT.

THE EXISTING PAVEMENT WILL BE MILLED TO A DEPTH OF 0.10' AT THE BUTT JOINT.

PAYMENT FOR THIS ITEM OF WORK WILL BE UNDER ITEM:  
AR401655 "BUTT JOINT CONSTRUCTION" - PER SQUARE YARD.

**THRESHOLD LIGHT REMOVAL**

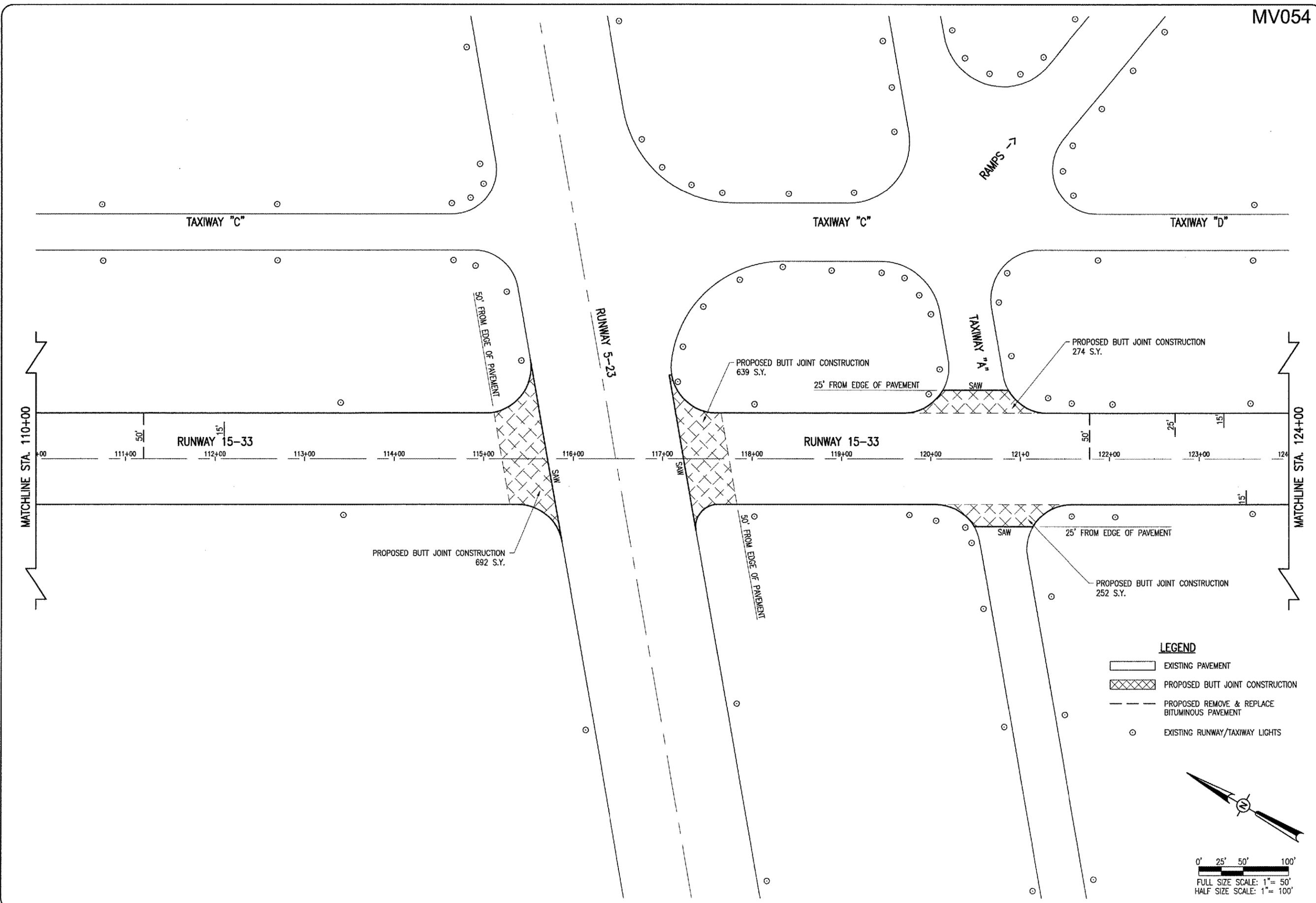
THE CONTRACTOR MAY TEMPORARILY REMOVE THE STAKE MOUNTED THRESHOLD LIGHTS SHOWN ON THIS SHEET AND SHEET 6 FOR ACCESS TO THE RUNWAY ENDS FOR THE MILLING AND PAVING EQUIPMENT.

THE REMOVAL, STORAGE, AND REPLACEMENT OF THE LIGHTS WHEN THE TASK IS COMPLETE, AS WELL AS ANY DAMAGE SUSTAINED IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, WILL BE CONSIDERED INCIDENTAL TO THE PROJECT, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

MAR 30, 2006 2:26 PM CCC  
I:\AIRPORTS\MOUNTAIN VERNON\819-06RWYD\AIRPORT\SHEETS\11-11PRP.DWG - Sta. 100+00 to 110+00

DATE	REVISION	BY	
MT. VERNON AIRPORT MT. VERNON, ILLINOIS PROJ.: MYN-3539 A.I.P. PROJ.: 3-17-0074-B12			
LAYOUT	CCC	08/16/05	08/16/05
DRAWN	CCC	08/16/05	08/16/05
REVIEWED	RAW	12/12/05	12/12/05
HANSON Professional Services Inc. 1525 South Sixth Street Springfield, Illinois 62705-2886 Offices Nationwide			
RUNWAY 15-33 P.F.C. OVERLAY		PROPOSED PAVEMENT PREPARATION PLAN STA. 100+00 TO 110+00	
4			
4 of 29 sheets			

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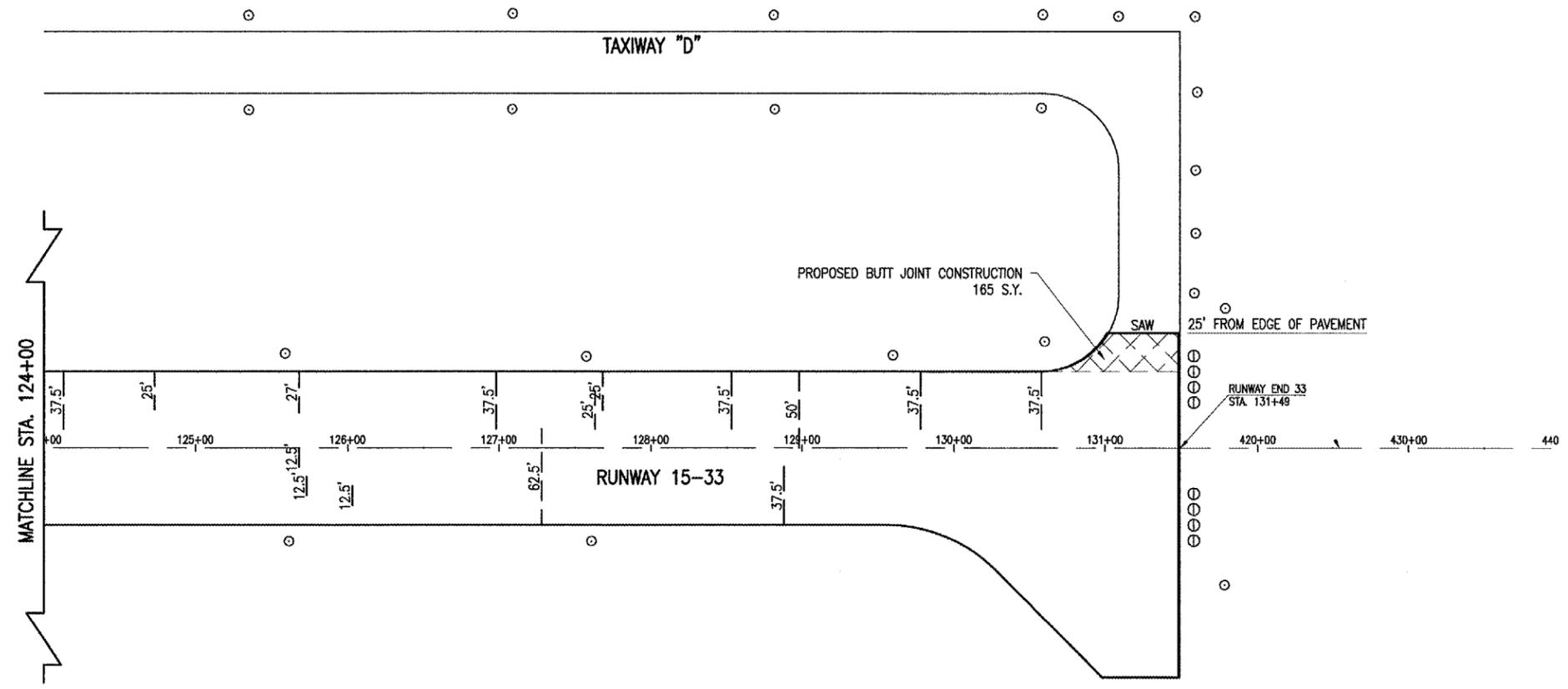
DATE	REVISION	BY

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MN-3539 A.I.P. PROJ.: 3-17-0074-812

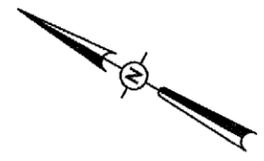
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Filename: R-111PRP.DWG	
Scale	Date
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LAYOUT	CCC
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REVIEWED	RAW
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RUNWAY 15-33  
 P.F.C. OVERLAY  
 PROPOSED PAVEMENT  
 PREPARATION PLAN  
 STA. 110+00 TO 124+00



- LEGEND**
- EXISTING PAVEMENT
  - PROPOSED BUTT JOINT CONSTRUCTION
  - PROPOSED REMOVE & REPLACE BITUMINOUS PAVEMENT
  - EXISTING THRESHOLD LIGHTS
  - EXISTING RUNWAY/TAXIWAY LIGHTS



0' 25' 50' 100'  
 FULL SIZE SCALE: 1" = 50'  
 HALF SIZE SCALE: 1" = 100'

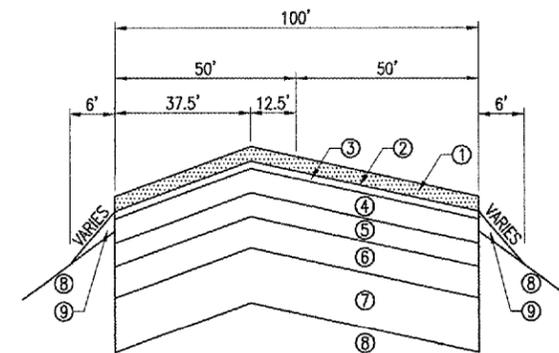
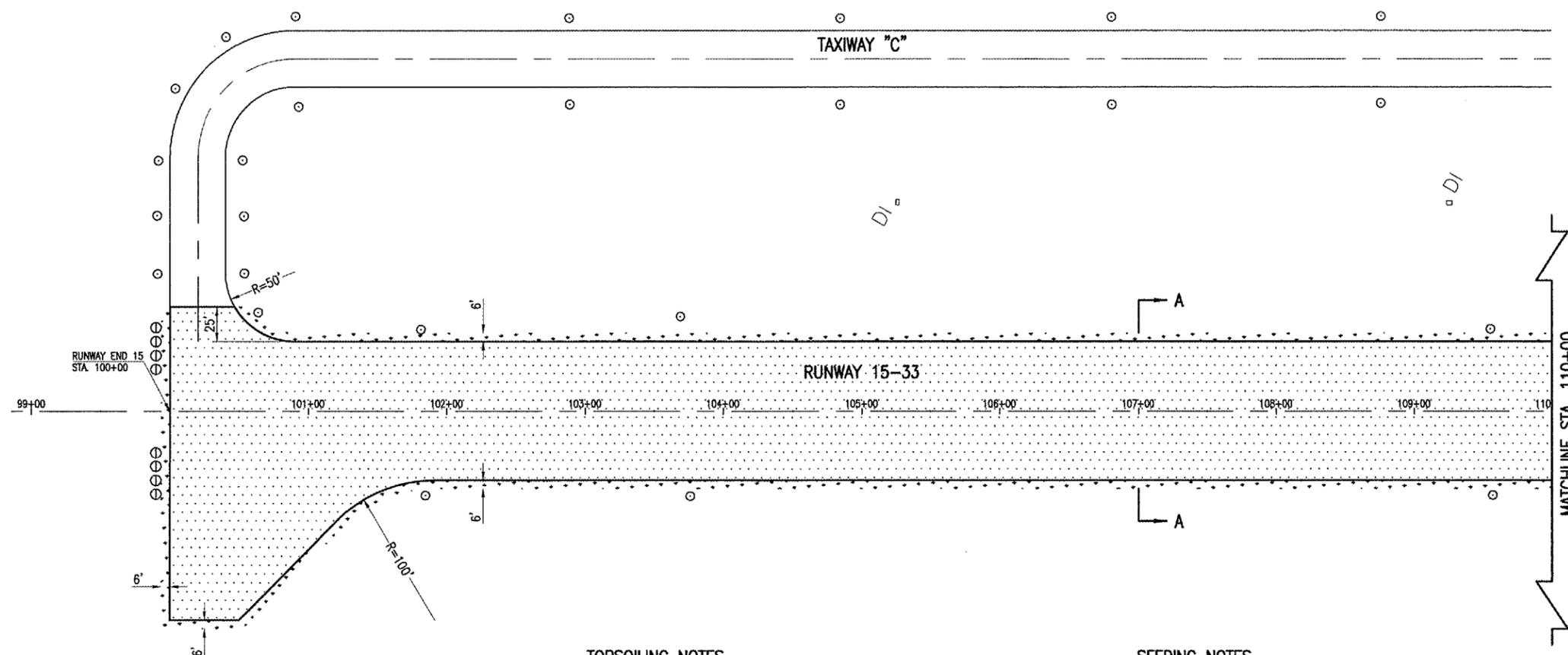
REVISION	DATE	BY

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 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MN-3539 A.I.P. PROJ.: 3-17-0074-B12

Project No. 819-06RWYD	
Filename R-111PRP.DWG	
Scale	
Date 08/16/05	
LAYOUT	CCC 08/16/05
DRAWN	CCC 08/16/05
REVIEWED	RAW 12/12/05

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 PROPOSED PAVEMENT  
 PREPARATION PLAN  
 STA. 124+00 TO 131+49



**LEGEND FOR PROPOSED TYPICAL SECTION**

- ① PROPOSED POROUS FRICTION COURSE (0.10' DEPTH)
- ② PROPOSED 603 BITUMINOUS TACK COAT
- ③ EXISTING POROUS FRICTION COURSE (5/8" DEPTH)
- ④ EXISTING BITUMINOUS SURFACE COURSE (2"± DEPTH)
- ⑤ EXISTING BITUMINOUS BASE COURSE (2"± DEPTH)
- ⑥ EXISTING BITUMINOUS SURFACE COURSE (3"± DEPTH)
- ⑦ EXISTING AGGREGATE BASE COURSE (9 - 10" DEPTH)
- ⑧ EXISTING EARTH SUBGRADE
- ⑨ PROPOSED EARTH FILLETS

**POROUS FRICTION COURSE NOTES**

THE PROPOSED POROUS FRICTION COURSE WILL BE CONSTRUCTED IN ONE LAYER, HAVING A COMPACTED NOMINAL THICKNESS OF ONE TENTH OF A FOOT (0.10") IN ACCORDANCE WITH ITEM AR402622 AND THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2004.

THE POROUS FRICTION COURSE SHALL BE PLACED ON A CLEAN AND PREPARED SURFACE ONLY AFTER THE APPROVAL OF THE RESIDENT ENGINEER.

THE SURFACES TO BE OVERLAYED WILL BE SPRAYED WITH AN APPLICATION OF A BITUMINOUS TACK COAT. AN APPLICATION RATE OF 0.25 GAL./S.Y. (DILUTED) WAS USED FOR CALCULATING THE QUANTITY OF TACK FOR THIS APPLICATION. THE EXACT RATE OF APPLICATION WILL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION. TACKED AREAS WORN FROM HAULING OPERATIONS SHALL BE RETACKED AT THE DISCRETION OF THE RESIDENT ENGINEER. THE TACK COAT MUST BE DRY (CURED) TO THE SATISFACTION OF THE RESIDENT ENGINEER PRIOR TO THE PLACEMENT OF THE POROUS FRICTION COURSE.

PAYMENT FOR THIS ITEM OF WORK WILL BE UNDER ITEM: AR402622 "POROUS FRICTION COURSE, 0.10" - PER SQUARE YARD.

**SHOULDER PREPARATION NOTES:**

PRIOR TO THE PAVING OPERATIONS THE EXISTING SOD ADJACENT TO THE EDGE OF PAVEMENT WITHIN THE PROJECT AREA SHALL BE GRADED AWAY FROM THE PAVEMENT A DISTANCE SUITABLE TO PREVENT THE SOD MATERIAL FROM AFFECTING THE PLACEMENT OF THE POROUS FRICTION COURSE. THE AMOUNT OF SOD DETERMINED TO REQUIRE REMOVAL SHALL BE SPRAYED WITH A HERBICIDE CAPABLE OF KILLING THE VEGETATION WITHIN THE WIDTH REMOVED. CARE SHALL BE TAKEN TO ENSURE THE HERBICIDE IS NOT APPLIED TO VEGETATION OUTSIDE OF THE GRADING AND SEEDING LIMITS. ANY DAMAGE TO VEGETATION OUTSIDE OF THE GRADING AND SEEDING LIMITS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.

THE SOD REMOVAL AND HERBICIDE APPLICATION WILL BE CONSIDERED INCIDENTAL TO ITEM AR402622 "POROUS FRICTION COURSE" AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

**TOPSOILING NOTES**

THE AREAS DESIGNATED BY [Symbol] ON THESE DRAWINGS SHALL BE GRADED FROM ONE (1) INCH BELOW PROPOSED PAVEMENT ELEVATIONS TO EXISTING EARTH ELEVATIONS 6 FEET FROM THE PROPOSED PAVEMENT.

THE EARTH FILLETS WILL NOT REQUIRE COMPACTING OR GRADING, OTHER THAN LIGHT ROLLING AND SHAPING. THE TOPSOIL PLACED SHALL BE FROM AN OFF SITE SOURCE AND COMPLY WITH THE SUPPLEMENTAL SPECIFICATION FOR FOR ITEM 905 "TOPSOILING".

PAYMENT FOR THIS ITEM OF WORK WILL BE UNDER ITEM: AR905520 "TOPSOILING" - PER CUBIC YARD.

**MULCHING DATA**

ALL EARTH FILLET AREAS WITHIN THE GRADING LIMITS WILL BE MULCHED IN ACCORDANCE WITH THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2004. HYDROMULCH WILL BE USED EXCLUSIVELY.

PAYMENT FOR THIS ITEM OF WORK WILL BE UNDER ITEM: AR908510 "MULCHING" - PER ACRE.

**SEEDING NOTES**

THE GRADING, SEEDING & MULCHING LIMITS ARE INDICATED ON THIS SHEET AND SHEETS 8 & 9 BY [Symbol]. ALL AREAS (EXCEPT THE PAVEMENT) WITHIN THESE LIMITS SHALL BE LIMED, FERTILIZED, AND SEEDING IN ACCORDANCE WITH THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2004 AND THE FOLLOWING FORMULA:

- LIME . . . . . 2 TONS/ACRE
- FERTILIZER (MINIMUM POUNDS OF AVAILABLE PLANT FOOD PER ACRE)
- N . . . . . 90 LBS./ACRE
- P<sub>2</sub>O<sub>5</sub> . . . . . 350 LBS./ACRE
- K<sub>2</sub>O . . . . . 240 LBS./ACRE
- TOTAL . . . . . 680 LBS./ACRE
- SEEDING (MINIMUM POUNDS OF PURE LIVE SEED PER ACRE)
- ALTA FESCUE . . . . . 100 LBS./ACRE
- PERENNIAL RYEGRASS . . . . . 50 LBS./ACRE
- CREEPING RED FESCUE . . . . . 40 LBS./ACRE
- SPRING OATS . . . . . 10 LBS./ACRE

PRIOR TO THE PLACEMENT OF THE SEED THE TOPSOIL ADJACENT TO THE PAVEMENT SHALL BE THOROUGHLY LOOSENED TO A DEPTH NOT LESS THAN 4 INCHES, THE ENTIRE WIDTH OF THE DISTURBED AREA. THE CONTRACTOR WILL USE DRAG BARS, HARROWS OR OTHER EQUIPMENT NECESSARY TO OBTAIN THE SMOOTH GRADE TO THE SATISFACTION OF THE RESIDENT ENGINEER. THE SEED BED SHALL BE SMOOTH AND TO GRADE UPON COMPLETION OF THE SEEDING OPERATION.

ALL AREAS WHICH ARE DISTURBED BY THE CONTRACTOR, OUTSIDE OF THE PROPOSED GRADING LIMITS, WILL BE LIMED, FERTILIZED, AND SEEDING IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM AR901510 AT NO ADDITIONAL COST TO THE CONTRACT.

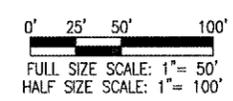
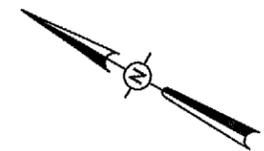
ALL ROCK, ASPHALT OR CONCRETE DEBRIS LEFT FROM THE PAVING OPERATION WILL BE REMOVED FROM THE AIRPORT SITE.

THE PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATION BETWEEN ALL SUB-CONTRACTORS AS TO THEIR RESPONSIBILITIES PERTAINING TO THE SEEDING OPERATION.

QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS BUILT QUANTITY
AR402622	POROUS FRICTION COURSE, 0.10'	S.Y.	36,618	
AR603510	BITUMINOUS TACK COAT	GAL.	9,155	
AR901510	SEEDING	ACRE	0.9	
AR905520	TOPSOILING (FROM OFF SITE)	C.Y.	100	
AR908510	MULCHING	ACRE	0.9	

**LEGEND**

- [Symbol] EXISTING PAVEMENT
- [Symbol] PROPOSED PFC OVERLAY
- [Symbol] PROPOSED GRADING/SEEDING LIMITS



MAR. 30. 2006 2:27 PM CCC I:\AIRPORTS\MV\VERNON\819-06RWYD\AIRPORT\SHETS\R-121CON.DWG - Sta. 100+00 to 110+00

REVISION	DATE	BY

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MN-3539 A.I.P. PROJ.: 3-17-0074-B12

LAYOUT	CCC	08/16/05
DRAWN	CCC	08/16/05
REVIEWED	RAW	08/16/05

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RUNWAY 15-33  
 P.F.C. OVERLAY  
 PROPOSED  
 CONSTRUCTION PLAN  
 STA. 100+00 TO 110+00

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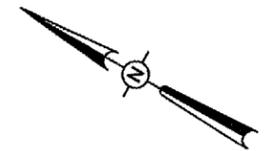


MV054

MATCHLINE STA. 110+00

MATCHLINE STA. 124+00

- LEGEND**
- EXISTING PAVEMENT
  - PROPOSED PFC OVERLAY
  - PROPOSED GRADING/SEEDING LIMITS



0' 25' 50' 100'  
 FULL SIZE SCALE: 1" = 50'  
 HALF SIZE SCALE: 1" = 100'

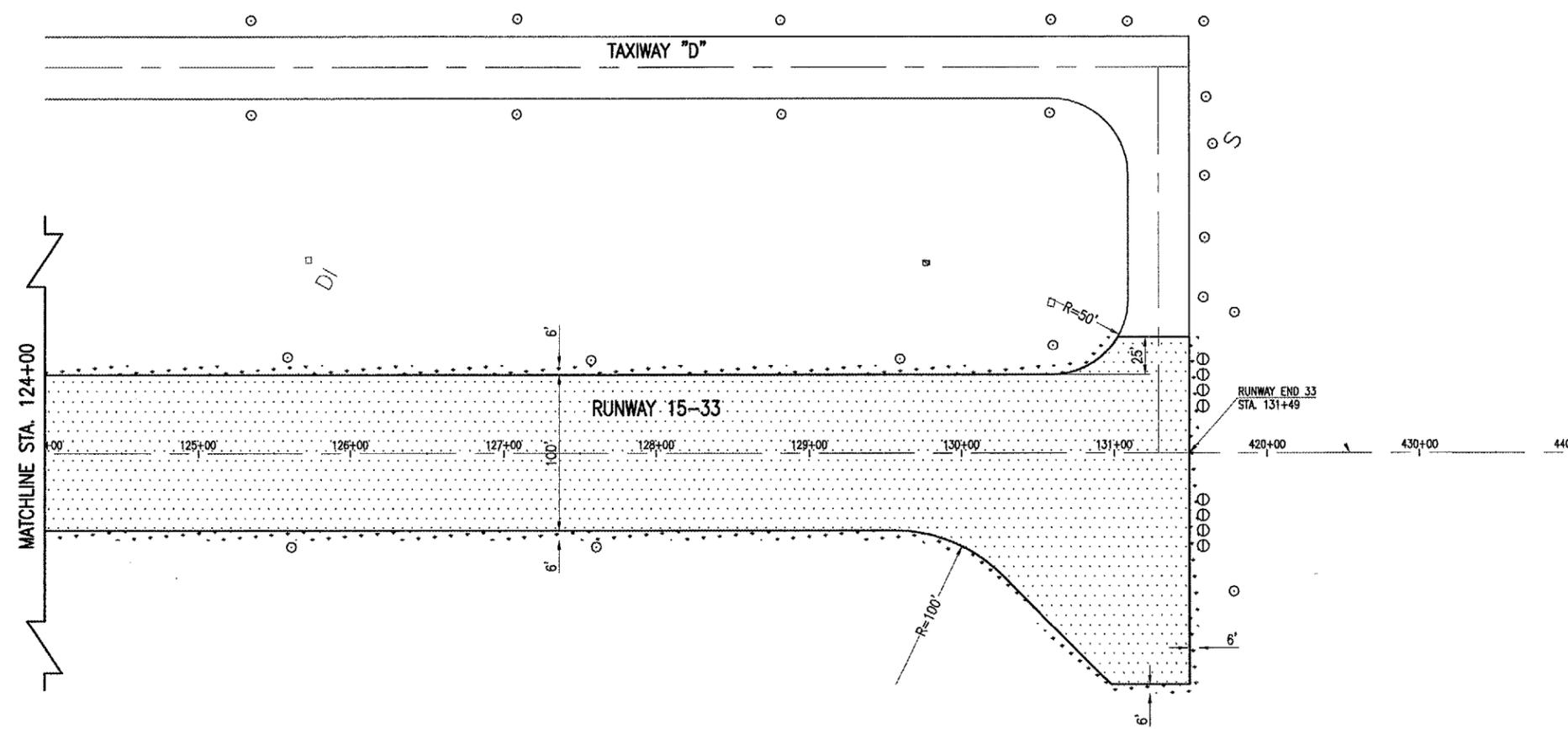
DATE	REVISION	BY

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 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MN-3539 A.I.P. PROJ.: 3-17-0074-B12

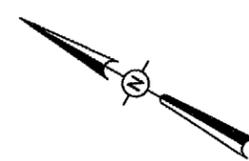
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DATE: 08/16/05	LAYOUT: CCC	DATE: 08/16/05
	DRAWN: CCC	DATE: 08/16/05
	REVIEWED: RAW	DATE: 08/16/05

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**RUNWAY 15-33  
 P.F.C. OVERLAY**  
 PROPOSED  
 CONSTRUCTION PLAN  
 STA. 110+00 TO 124+00



- LEGEND**
-  EXISTING PAVEMENT
  -  PROPOSED PFC OVERLAY
  -  PROPOSED GRADING/SEEDING LIMITS



0' 25' 50' 100'  
 FULL SIZE SCALE: 1" = 50'  
 HALF SIZE SCALE: 1" = 100'

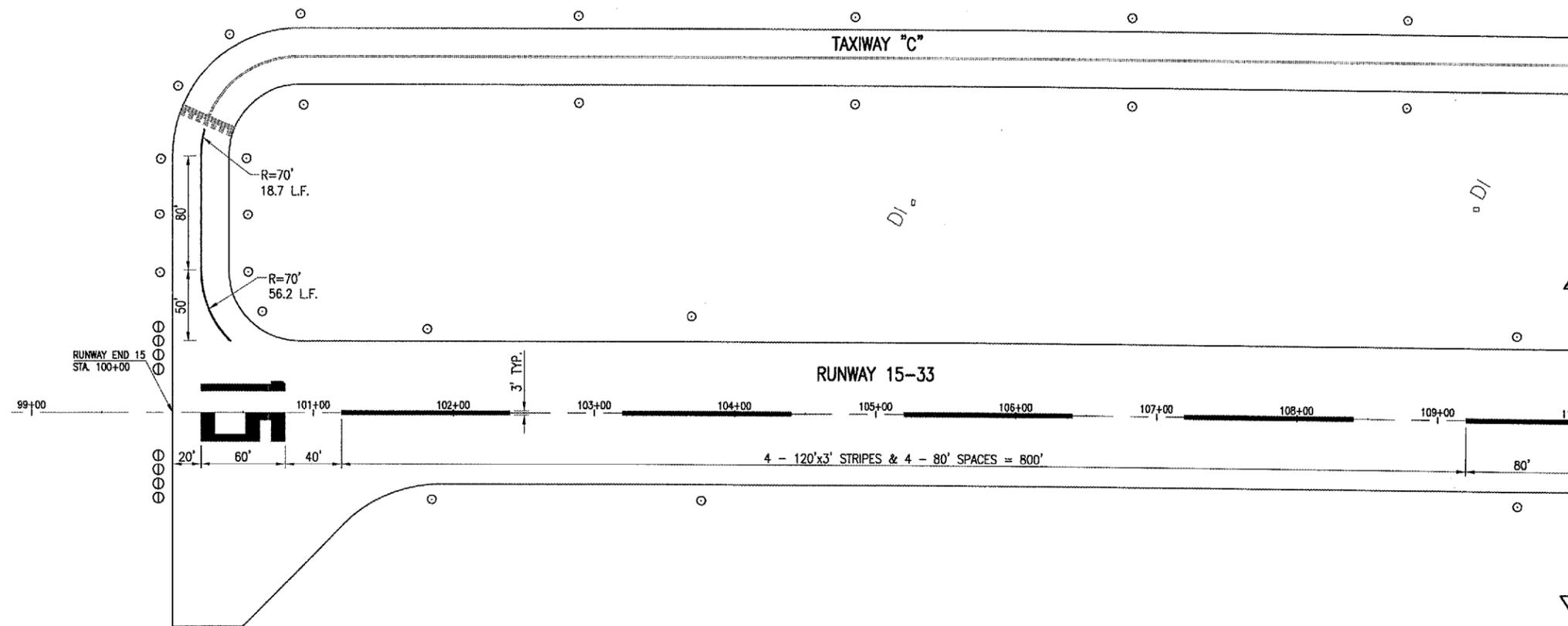
DATE	REVISION	BY

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MVN-5539 A.I.P. PROJ.: 3-17-0074-B12

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Scale 1" = 50'		
LAYOUT	CCC	08/16/05
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**RUNWAY 15-33  
 P.F.C. OVERLAY**  
 PROPOSED  
 CONSTRUCTION PLAN  
 STA. 124+00 TO 131+49



**MARKING NOTES:**

THE PAVEMENT MARKING-WATERBORNE (620) SHALL BE PLACED IN ACCORDANCE WITH ITEM 620 "PAVEMENT MARKING" AS STATED ON PAGE 77 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

ANY MATERIAL DELIVERED THAT FAILS TO MEET THE SPECIFICATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR AND IMMEDIATELY REPLACED WITH ACCEPTABLE MATERIAL ENTIRELY AT THE CONTRACTOR'S EXPENSE, INCLUDING HANDLING AND TRANSPORTATION CHARGES.

ALL RUNWAY CENTERLINE STRIPES SHALL BE SOLID AND WHITE IN COLOR, THREE FEET WIDE, 120 FEET IN LENGTH AND THE SPACES SHALL BE 80 FEET IN LENGTH UNLESS OTHERWISE SHOWN.

TAXIWAY MARKING SHALL BE SOLID AND YELLOW IN COLOR AND BE 1 FOOT IN WIDTH.

ALL PROPOSED TAXIWAY CENTERLINE STRIPES WILL BE REMARKED TO 3 FEET FROM THE EXISTING HOLDING LINE.

ALL PROPOSED MARKING WILL BE COMPLETED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION PLANS.

THE PROPOSED PAVEMENT MARKING WILL BE APPLIED IN TWO APPLICATIONS. GLASS BEADS SHALL BE REQUIRED IN THE SECOND APPLICATION ONLY.

ALL NUMERALS ARE HORIZONTALLY SPACED 15 FEET APART.

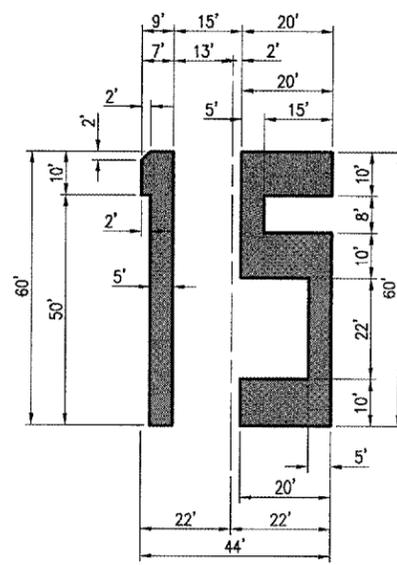
DOUBLE DIGIT NUMERAL DESIGNATIONS ARE CENTERED ON THE RUNWAY PAVEMENT CENTERLINE BASED ON THE CENTER OF THE OUTER EDGES OF THE TWO NUMERALS.

CUT-OFF SHEETS WILL BE REQUIRED TO INSURE STRAIGHT EDGES.

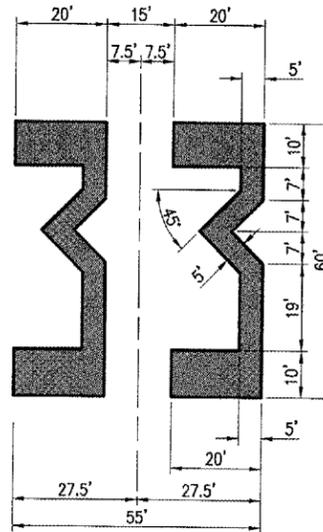
PAYMENT FOR THIS ITEM OF WORK WILL BE UNDER ITEM:  
AR620520 "PAVEMENT MARKING-WATERBORNE" - PER SQ. FT

MATCHLINE STA. 110+00

MARKING QUANTITIES			
DESCRIPTION	UNIT AREA	NUMBER REQUIRED	TOTAL AREA (S.F.)
RUNWAY 15-33 CENTERLINE STRIPE (120'x3')	360	13	4,680
RUNWAY 15-33 CENTERLINE STRIPE (52'x3')	156	1	156
RUNWAY 15-33 CENTERLINE STRIPE (106'x3')	318	1	318
RUNWAY 5-23 CENTERLINE STRIPE	360	2	720
RUNWAY 5-23 EDGE STRIPE (172'x3')	516	1	516
RUNWAY 5-23 EDGE STRIPE (203'x3')	609	1	609
NUMERAL 1 (OF NUMERAL 15)	322	1	322
NUMERAL 3 (OF NUMERAL 33)	634	2	1,268
NUMERAL 5 (OF NUMERAL 15)	750	1	750
		TOTAL (WHITE)	9,339
TAXIWAY STRIPES	N/A	N/A	2,383
		TOTAL (YELLOW)	2,383
		<b>TOTAL MARKING</b>	<b>11,722</b>

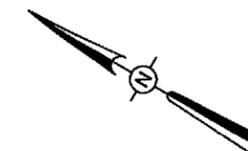


**NUMERAL 15 DETAIL**  
SCALE: 1"=20'  
(318 S.F. PER NUMERAL 1)  
(750 S.F. PER NUMERAL 5)



**NUMERAL 33 DETAIL**  
SCALE: 1"=20'  
(634 S.F. PER NUMERAL 3)

- LEGEND**
- EXISTING PAVEMENT
  - EXISTING MARKING
  - PROPOSED MARKING



0' 25' 50' 100'  
FULL SIZE SCALE: 1"= 50'  
HALF SIZE SCALE: 1"= 100'

REVISION	DATE	BY

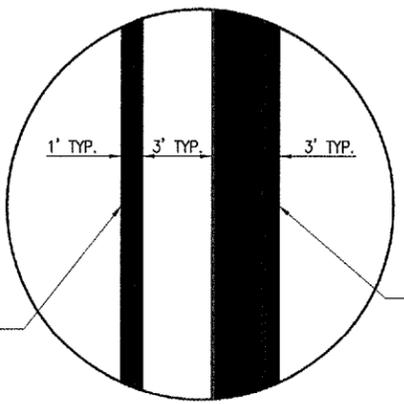
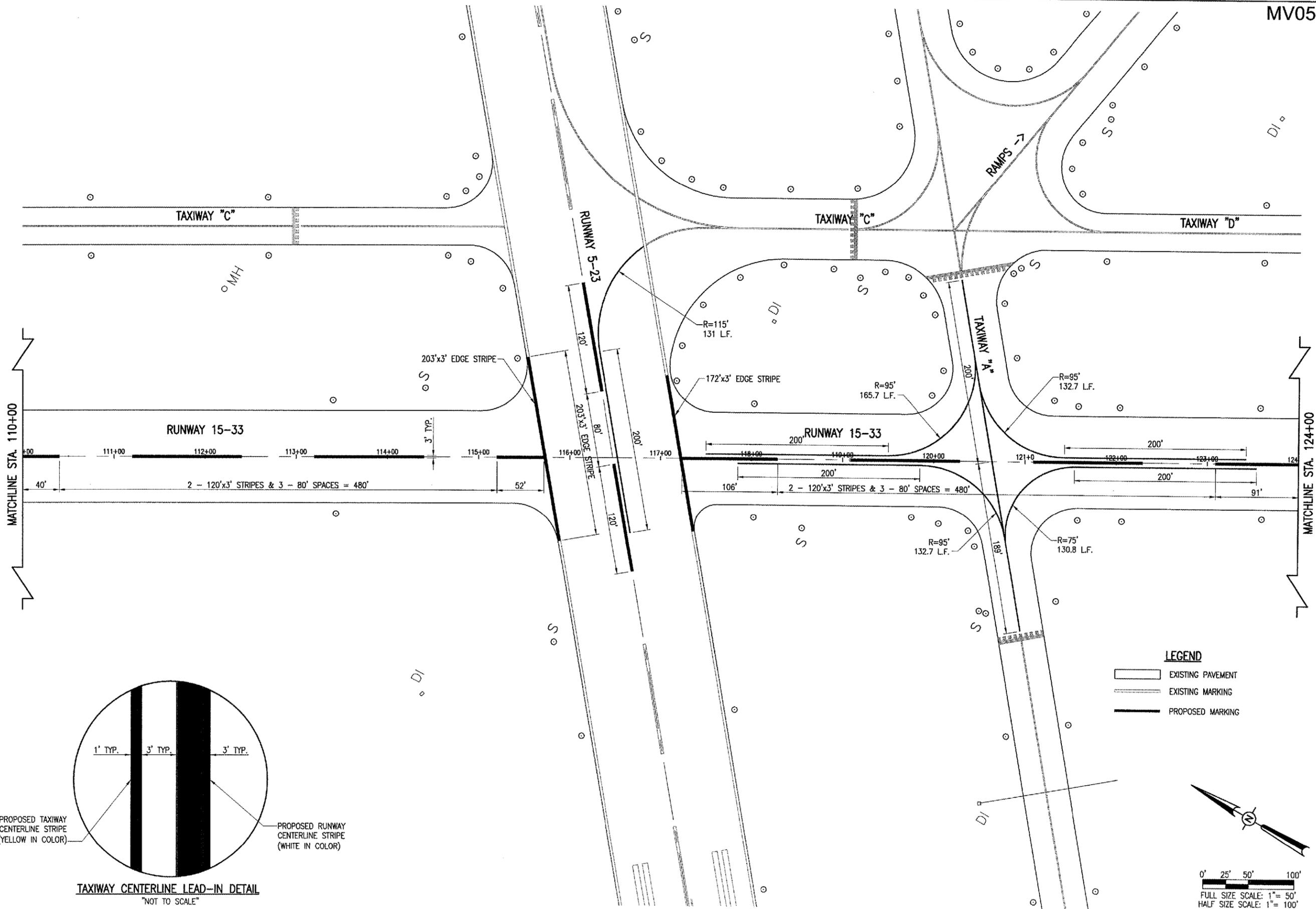
MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 A.I.P. PROJ.: 3-17-0074-B12  
 I.L. PROJ.: MWN-3539

DATE	BY	REVISION
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08/16/05	CCC	DRAWN
12/12/05	RAW	REVIEWED

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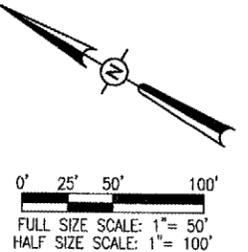
RUNWAY 15-33  
 P.F.C. OVERLAY  
 PROPOSED  
 MARKING PLAN  
 STA. 100+00 TO 110+00

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**LEGEND**

	EXISTING PAVEMENT
	EXISTING MARKING
	PROPOSED MARKING



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DATE	REVISION	BY

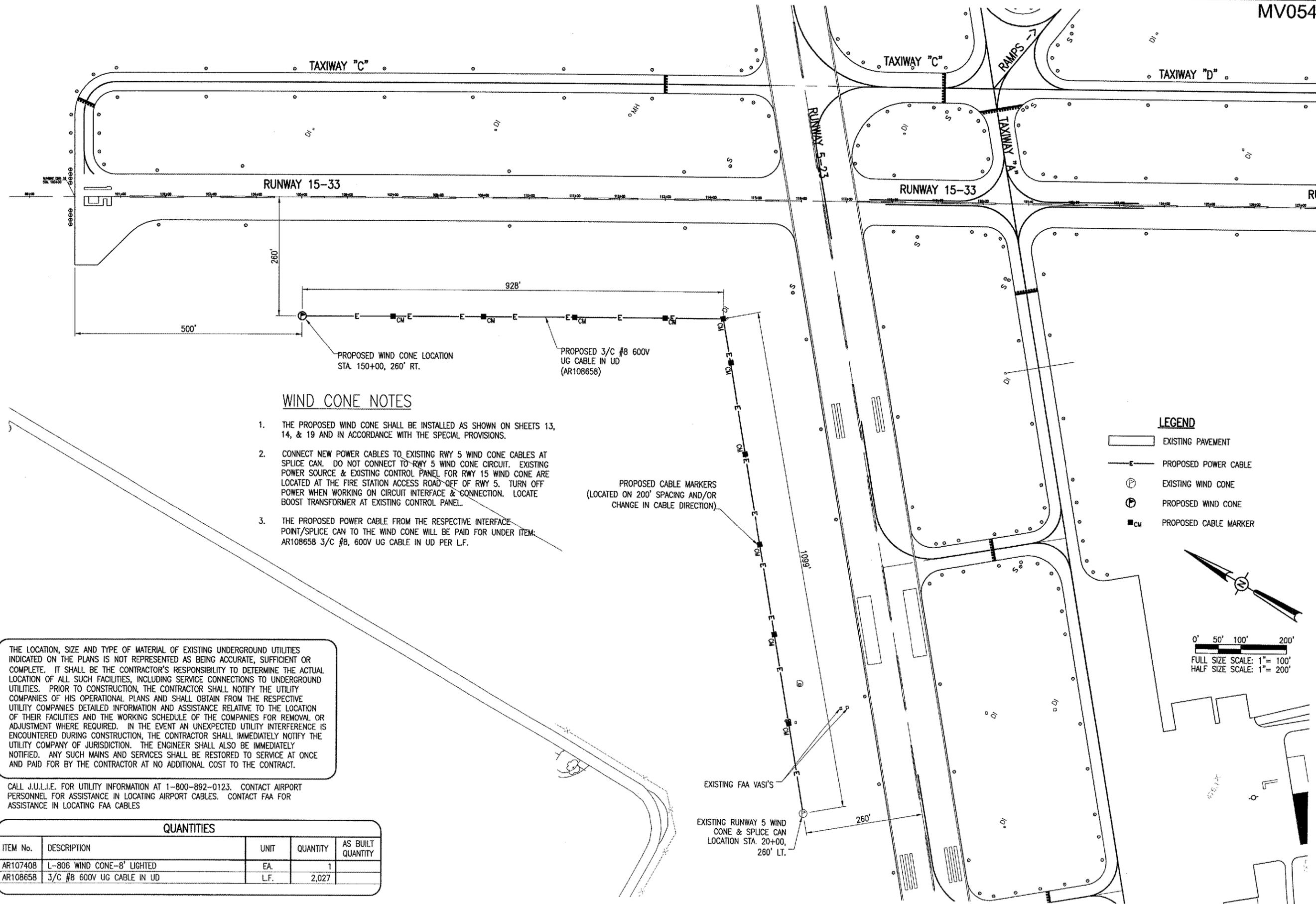
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**MT. VERNON, ILLINOIS**  
 A.I.P. PROJ.: 3-17-0074-B12  
 I.L. PROJ.: MWN-3539

H&B Project No. 819-08RWYD Engineer: R-15 IMRK.DWG Scale: 1" = 50' Date: 08/16/05	LAYOUT DRAWN: CCC REVIEWED: RAW	08/16/05 08/16/05 12/12/05
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**RUNWAY 15-33**  
**P.F.C. OVERLAY**  
 PROPOSED  
 MARKING PLAN  
 STA. 110+00 TO 124+00



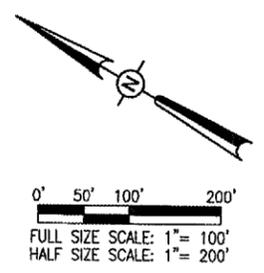


**WIND CONE NOTES**

1. THE PROPOSED WIND CONE SHALL BE INSTALLED AS SHOWN ON SHEETS 13, 14, & 19 AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
2. CONNECT NEW POWER CABLES TO EXISTING RWY 5 WIND CONE CABLES AT SPLICE CAN. DO NOT CONNECT TO RWY 5 WIND CONE CIRCUIT. EXISTING POWER SOURCE & EXISTING CONTROL PANEL FOR RWY 15 WIND CONE ARE LOCATED AT THE FIRE STATION ACCESS ROAD-OFF OF RWY 5. TURN OFF POWER WHEN WORKING ON CIRCUIT INTERFACE & CONNECTION. LOCATE BOOST TRANSFORMER AT EXISTING CONTROL PANEL.
3. THE PROPOSED POWER CABLE FROM THE RESPECTIVE INTERFACE POINT/SPLICE CAN TO THE WIND CONE WILL BE PAID FOR UNDER ITEM: AR108658 3/C #8, 600V UG CABLE IN UD PER L.F.

**LEGEND**

- EXISTING PAVEMENT
- PROPOSED POWER CABLE
- EXISTING WIND CONE
- PROPOSED WIND CONE
- PROPOSED CABLE MARKER



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.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123. CONTACT AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING AIRPORT CABLES. CONTACT FAA FOR ASSISTANCE IN LOCATING FAA CABLES

**QUANTITIES**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	AS BUILT QUANTITY
AR107408	L-806 WIND CONE-8' LIGHTED	EA.	1	
AR108658	3/C #8 600V UG CABLE IN UD	L.F.	2,027	

DATE	REVISION	BY

MT. VERNON AIRPORT  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MVN-3539 A.I.P. PROJ.: 3-17-0074-B12

Job Project No. 819-08RWYD  
 File No. R-141ELE.DWG  
 Scale 1" = 100'  
 Date 08/16/05

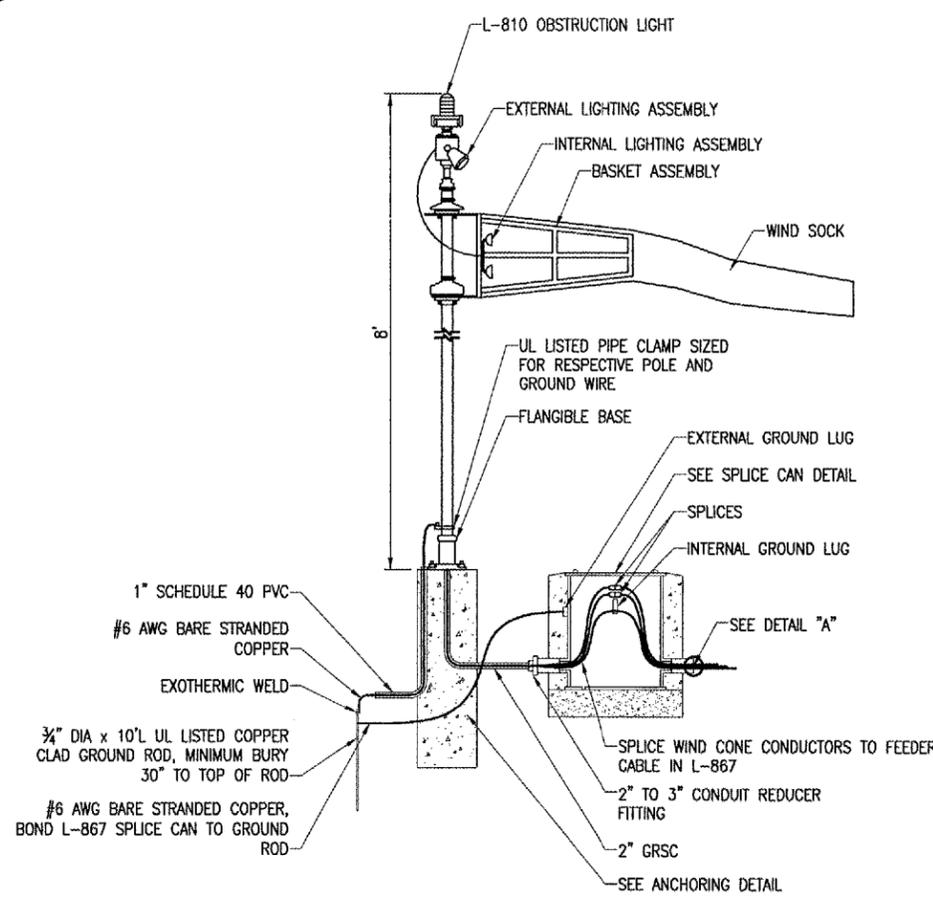
LAYOUT	CCC	08/16/05
DRAWN	CCC	08/16/05
REVIEWED	RAW	08/16/05

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RUNWAY 15-33  
 P.F.C. OVERLAY  
 PROPOSED  
 ELECTRICAL PLAN

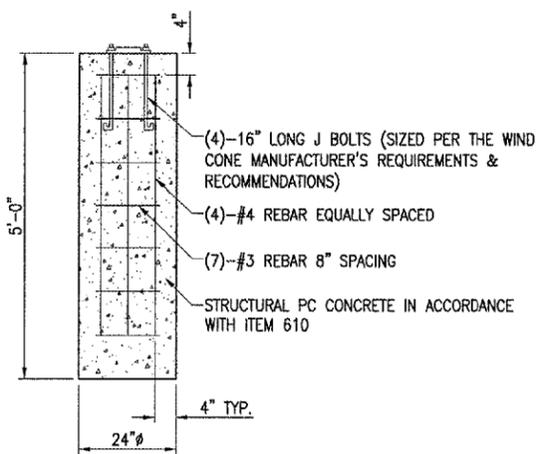
MAR 30, 2006, 2:28 PM, CCC  
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MAR. 30, 2006 2:29 PM CCC E:\AIRPORTS\MVERNON\819-06RWYD\AIRPORT\SHEETS\R-54 TELE.DWG - ELEC. DETAILS 1

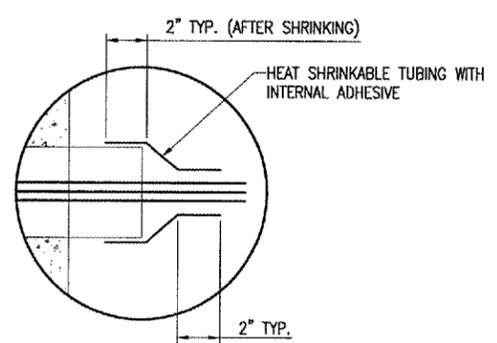


**EXTERNALLY LIGHTED L-806 WIND CONE**  
(NOT TO SCALE)

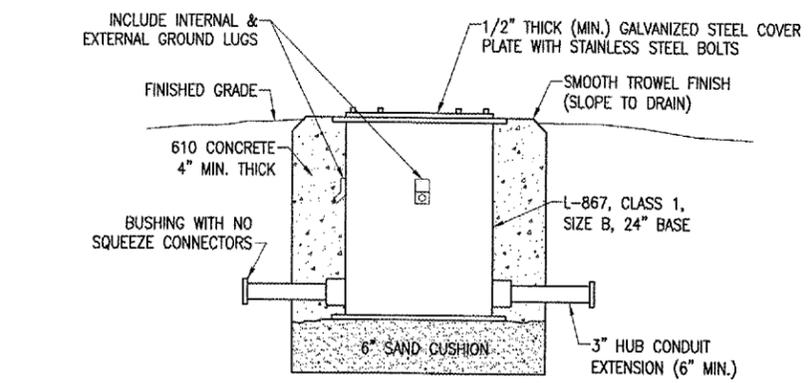
NOTE: WIND CONE SHALL ALSO INCLUDE INTERNAL LIGHTING OPTION.



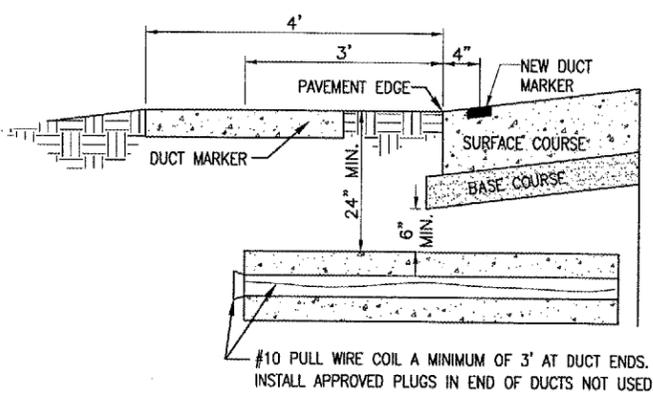
**ANCHORING DETAIL**  
(NOT TO SCALE)



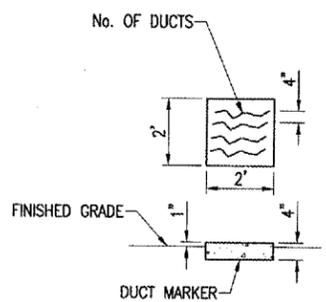
**DETAIL "A"**  
(NOT TO SCALE)



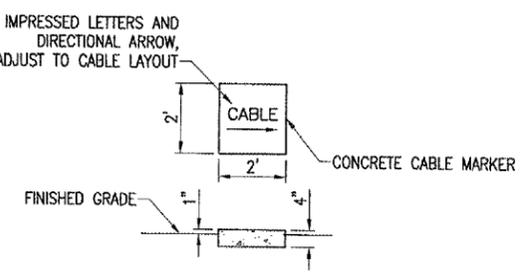
**SPLICE CAN DETAIL**  
(NOT TO SCALE)



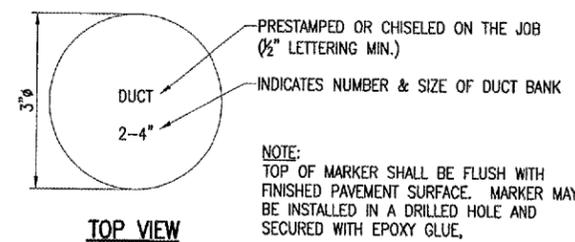
**UNDERGROUND ELECTRICAL DUCT**  
(NOT TO SCALE)



**TURF DUCT MARKERS**  
"NOT TO SCALE"

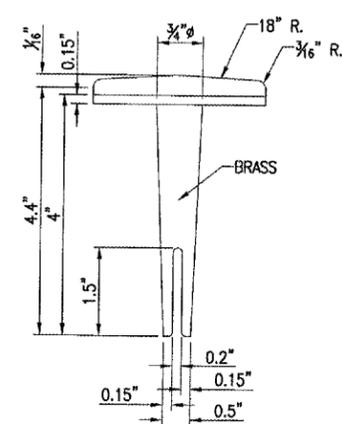


**TURF CABLE MARKERS**  
"NOT TO SCALE"



**TOP VIEW**

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



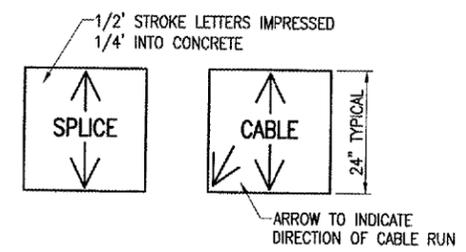
**2-DUCT BANK**  
(NOT TO SCALE)

NOTE: 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.

BITUMINOUS PAVEMENT DUCT MARKER AND 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 INFORMED AS DESCRIBED IN NOTE 4.

CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND EVERY 200' ALONG CABLE RUNS.

LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 1/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.



**PLAN VIEWS**

**MARKER NOTES**

CABLE/SPLICE 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.

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 CABLE.

LOCATIONS OF ALL UNDERGROUND CABLE SPLICES/CONNECTIONS, EXCEPT THOSE AT ISOLATION TRANSFORMERS, SHALL BE IDENTIFIED BY MARKERS. SPLICE MARKERS SHALL BE PLACED IMMEDIATELY ABOVE THE SPLICE/CONNECTIONS.

MARKERS SHALL BE PLACED WHERE SHOWN ON PLANS AND ELECTRICAL NOTES.

COST OF CONCRETE MARKERS IS INCIDENTAL TO THE CABLE.

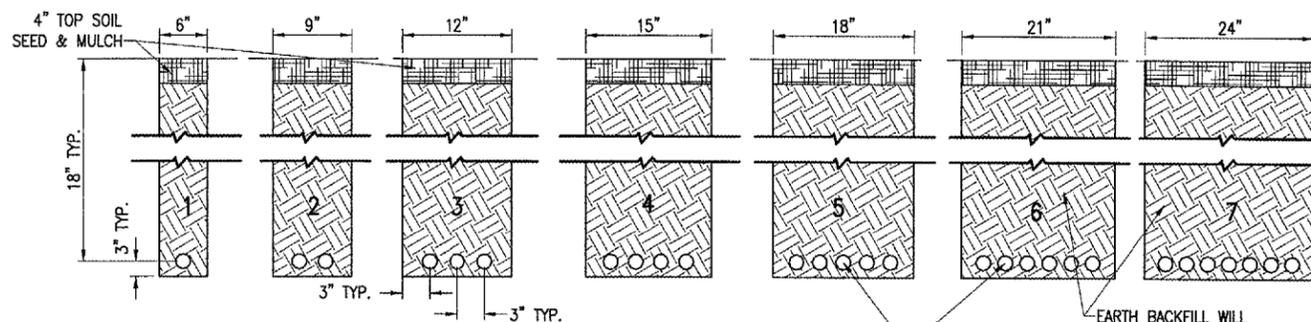
BY	
REVISION	
DATE	

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MWN-3539  
 A.I.P. PROJ.: 3-17-0074-B12

Proj. No.	819-06RWYD
Drawings	R-54 TELE.DWG
Scale	N/A
Date	08/16/05
LAYOUT	CCC
DRAWN	CCC
REVIEWED	RAW
	08/16/05
	08/16/05
	12/12/05

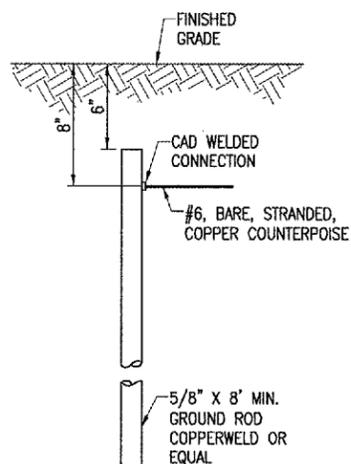
**HANSON**  
 Hanson Professional Services Inc.  
 1525 South Sixth Street  
 Springfield, Illinois 62703-2888  
 Offices Nationwide

RUNWAY 15-33  
 P.F.C. OVERLAY  
 WIND CONE &  
 ELECTRICAL DETAILS



**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.

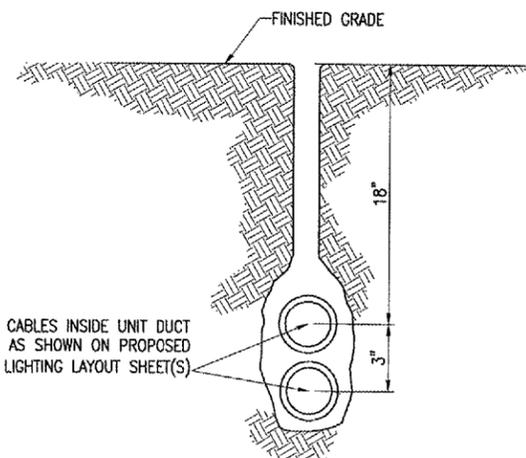
**CABLE TRENCHES**  
 (NOT TO SCALE)



**NOTES:**  
 TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.  
 THE RESISTANCE TO GROUND OF THE COUNTERPOISE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.

COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.

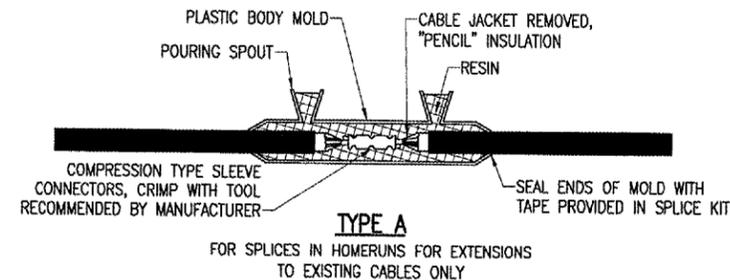
**GROUND ROD**  
 (NOT TO SCALE)



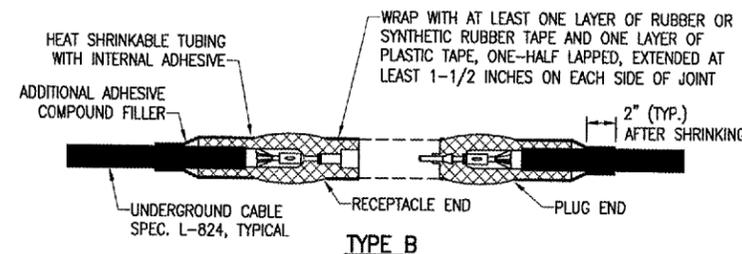
CABLES INSIDE UNIT DUCT AS SHOWN ON PROPOSED LIGHTING LAYOUT SHEET(S)

**PLOWED CABLE**  
 (NOT TO SCALE)

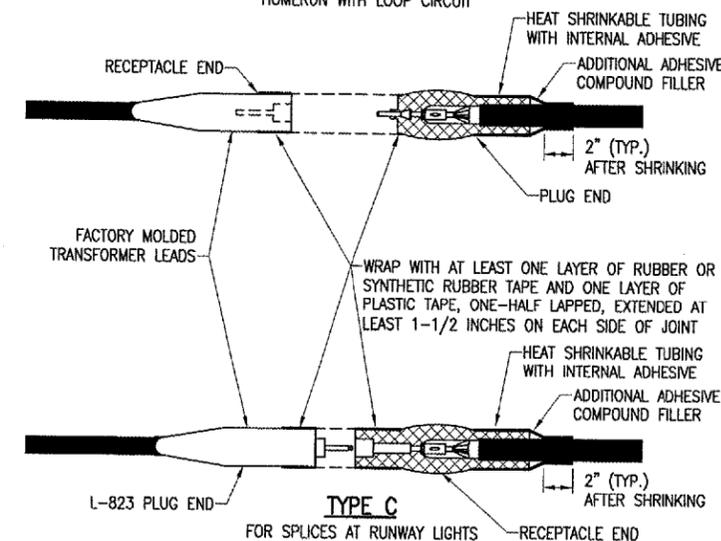
EARTH BACKFILL WILL HAVE MAXIMUM 1" SIZE PARTICLES AND WILL BE PLACED IN TWO LIFTS AS APPROXIMATELY SHOWN (TYPICAL FOR ALL TRENCHES)



**TYPE A**  
 FOR SPLICES IN HOMERUNS FOR EXTENSIONS TO EXISTING CABLES ONLY



**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)

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.

REVISION	DATE	BY

MT. VERNON AIRPORT  
 MT. VERNON, ILLINOIS  
 A.I.P. PROJ.: 3-17-0074-812  
 I.L. PROJ.: MWN-3539

REV. PROJECT NO.	819-06RWYD	DATE	08/16/05
FILE NAME	R-54 TELE.DWG	SCALE	N/A
DRAWN	CCC	DATE	08/16/05
CHECKED	CCC	DATE	08/16/05
REVIEWED	RAW	DATE	12/12/05

**HANSON**  
 Hanson Professional Services Inc.  
 1625 South Sixth Street  
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RUNWAY 15-33  
 P.F.C. OVERLAY  
 ELECTRICAL DETAILS

MAR 30, 2006 2:28 PM CCC  
 I:\AIRPORTS\MTVERNON\819-06RWYD\AIRPORT\ SHEETS\R-54 TELE.DWG - ELEC. DETAILS 2

**GENERAL**

1. THE ELECTRICAL INSTALLATION, AS A MINIMUM, SHALL MEET THE NATIONAL ELECTRICAL CODE (LATEST RECOGNIZED VERSION) AND LOCAL REGULATIONS.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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. A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
  - B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
  - C. INSTALLATION INSTRUCTIONS.
  - D. START-UP INSTRUCTIONS.
  - E. PREVENTATIVE MAINTENANCE REQUIREMENTS.
  - F. CHART FOR TROUBLE-SHOOTING.
  - G. 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.
  - H. 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.
  - I. SAFETY INSTRUCTIONS.

**POWER AND CONTROL**

1. STENCIL ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO STENCIL THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT STENCILING AREA, THE STENCILING SHALL BE DONE ON THE WALL NEXT TO THE UNIT. THE LETTERS SHALL BE ONE INCH HIGH AND PAINTED IN WHITE OR BLACK TO PROVIDE THE HIGHEST CONTRAST WITH THE BACKGROUND.
2. 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.
3. 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.
4. IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.
5. LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
6. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
7. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
  - A. 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.
  - B. 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.
8. 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.
9. EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.
10. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
11. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
12. DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
13. ALL WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON WOODEN MOUNTING BOARDS.
14. WOODEN EQUIPMENT MOUNTING BOARDS SHALL BE PLYWOOD, EXTERIOR TYPE, 3/4 INCH, MINIMUM, THICKNESS, BOTH SIDES PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF GRAY OIL-BASED PAINT.
15. RIGID STEEL CONDUIT SHALL BE USED THROUGHOUT THE INSTALLATION UNLESS OTHERWISE SPECIFIED. THE MINIMUM TRADE SIZE SHALL BE 3/4 INCH.
16. ALL RIGID CONDUIT SHALL BE TERMINATED AT CONSTANT CURRENT REGULATORS WITH A SECTION (10" MINIMUM) OF FLEXIBLE CONDUIT.
17. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
19. USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
21. WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULATING TAPE AND COVER WITH INSULATING VARNISH FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
22. UNLESS OTHERWISE NOTED, ALL INDOOR SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. MINIMUM.
23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
  - A. ALL COMPONENTS SHALL BE MOUNTED IN DUST PROOF ENCLOSURE(S) WITH VERTICALLY HINGED COVERS.
  - B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
  - C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
  - D. 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.
  - E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
  - F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
  - G. A COMPLETE WIRING DIAGRAM (NOT A SCHEMATIC DIAGRAM) SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
  - H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
  - I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
  - J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.

MAR 30, 2006 2:29 PM CCC P:\AIRPORTS\MV\VERNON\B19-06RWYD\AIRPORT\1\SHEETS\R-54TELE.DWG - ELEC. NOTES 1

DATE	REVISION				
					
MT. VERNON AIRPORT MT. VERNON, ILLINOIS I.L. PROJ.: MWN-3539 A.I.P. PROJ.: 3-17-0074-B12					
H.E. Project No. 819-06RWYD Drawing R-54TELE.DWG Scale N/A Date 08/16/05		LAYOUT CCC 08/16/05 DRAWN CCC 08/16/05 REVIEWED RAW 12/12/05		 Hanson Professional Services Inc. 1526 South Sixth Street Springfield, Illinois 62703-2888 Offices Nationwide	
RUNWAY 15-33 P.F.C. OVERLAY			ELECTRICAL NOTES		
16					
16 of 29 sheets					

**FIELD LIGHTING NOTES**

1. UNLESS OTHERWISE NOTED, ALL UNDERGROUND FIELD POWER MULTIPLE AND SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED L-824 TYPE. INSULATION VOLTAGE AND SIZE SHALL BE AS SPECIFIED.
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.
5. THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT-SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE.
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 FLANGIBLE 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 BE SEALED WITH HEAT SHRINK.
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.

**GROUNDING NOTES**

1. ALL GROUND CONNECTIONS TO GROUND RODS, BUSES, PANELS, ETC. SHALL BE MADE WITH PRESSURE TYPE SOLDERLESS LUGS AND GROUND CLAMPS SOLDERED OR BOLT AND WASHER TYPE CONNECTIONS ARE NOT ACCEPTABLE. CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS.
2. TOP OF GROUND RODS SHALL BE TEN (10) INCHES BELOW GRADE.
3. THE RESISTANCE TO GROUND OF THE VAULT GROUNDING SYSTEM WITH THE COMMERCIAL POWER LINE NEUTRAL DISCONNECTED SHALL NOT EXCEED 10 OHMS.

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DATE	REVISION				
BY					
 MT. VERNON AIRPORT MT. VERNON, ILLINOIS I.L. PROJ.: MWN-3539 A.I.P. PROJ.: 3-17-0074-812					
I.E.T. Project No. 819-06RWYD Electric: R-54TELE.DWG Scale: N/A Date: 08/16/05	LAYOUT DRAWN REVIEWED	CCC CCC RAW	08/16/05 08/16/05 12/12/05		
 Hanson Professional Services Inc. 1526 South Sixth Street Springfield, Illinois 62703-2886 Offices Nationwide					
RUNWAY 15-33 P.F.C. OVERLAY		ELECTRICAL NOTES			
17					
17 of 29 sheets					

ELECTRICAL LEGEND - ONE-LINE DIAGRAM	
	CABLE TERMINATOR/LUG
	TRANSFORMER
	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
	THERMAL MAGNETIC CIRCUIT BREAKER
	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 BUS OR TERMINAL
	NEUTRAL BUS
	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
	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 BUS OR TERMINAL
	NEUTRAL BUS
	GROUND, GROUND ROD
	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
	S1 CUTOUT HANDLE REMOVED
	S1 CUTOUT HANDLE INSERTED

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
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
LTFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED)
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCUAR MIL
MDP	MAIN DISTRIBUTION PANEL
MH	METAL HALIDE
MIN	MINIMUM

ELECTRICAL ABBREVIATIONS (CONTINUED)	
MLO	MAIN LUGS ONLY
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD
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
V	VOLTS
W/	WITH
W/O	WITHOUT
WP	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER

ELECTRICAL LEGEND - PLANS	
	CONDUIT (EXPOSED)
	CONDUIT OR UNIT DUCT (CONCEALED OR BURIED)
	DUCT
	BURIED/UNDERGROUND ELECTRIC
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC
	POLE MOUNTED HID FIXTURE
	DUPLEX CONVENIENCE RECEPTACLE, 120V, SINGLE PHASE, GROUNDING TYPE, 48" A.F.F. EXCEPT AS NOTED
	WALL OR CEILING MTD. JUNCTION BOX. CONFIGURATION VARIES WITH USE
	SINGLE THROW DISCONNECT SWITCH
	SINGLE THROW, FUSIBLE DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER
	CONTROL PANEL
	MOTOR, ESTIMATED H.P. AS INDICATED.
	MOTOR
	TRANSFORMER
	ELECTRIC UTILITY METER
	ENCLOSURE
	CIRCUIT BREAKER PANEL-SEE SCHEDULES
	GROUND ROD

**NOTES:**

- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (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.
- CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER.
- 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. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

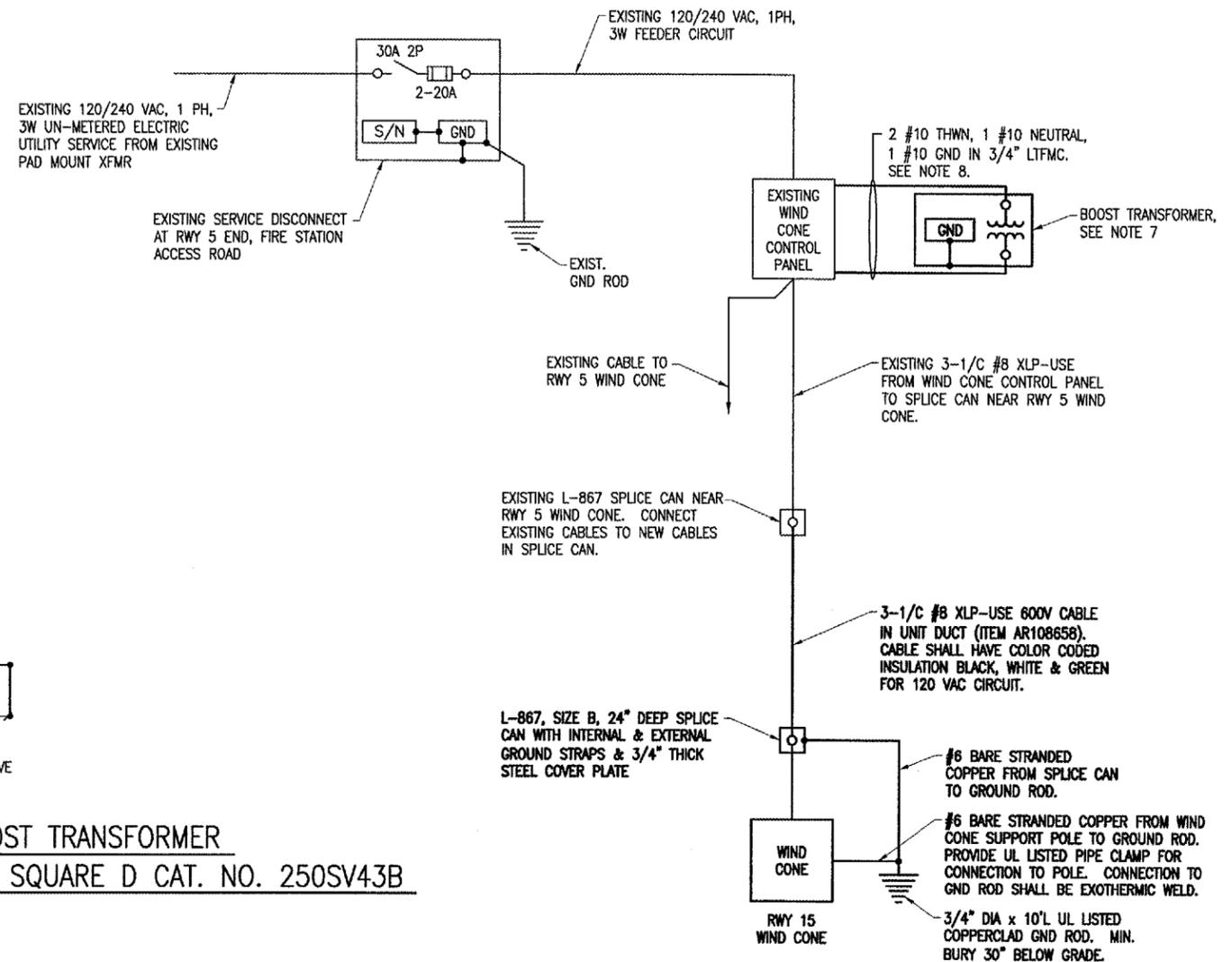
120/240 VAC, 1 PHASE, 3 WIRE  
 PHASE A BLACK  
 PHASE B RED  
 NEUTRAL WHITE  
 GROUND GREEN

120/208 VAC, 1 PHASE, 3 WIRE  
 PHASE A BLACK  
 PHASE B RED  
 NEUTRAL WHITE  
 GROUND GREEN

208/120 VAC, 3 PHASE, 4 WIRE  
 PHASE A BLACK  
 PHASE B RED  
 PHASE C BLUE  
 NEUTRAL WHITE  
 GROUND GREEN

INFORMATION SHOWN ON THIS SHEET IS FOR BASE BID, BID ALTERNATE NO. 1 & BID ALTERNATE NO. 2

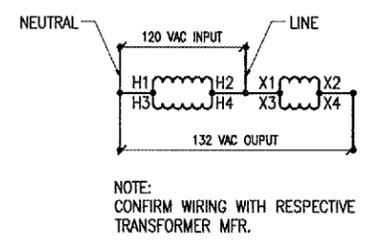
DATE	REVISION
<p>MT. VERNON AIRPORT                  MT. VERNON, ILLINOIS</p>	
HD Project No. 819-06RWYD Estimate E-001.DWG Scale NONE Date	LAYOUT KNL 11/30/05 DRAWN MW 11/30/05 REVIEWED CAH 12/14/05
RUNWAY 15-33 P.F.C. OVERLAY ELECTRICAL LEGEND AND ABBREVIATIONS	IL. PROJ.: MWV-3539 A.I.P. PROJ.: 3-17-0074-812
<p>18</p> 18 of 29 sheets (E-1)	



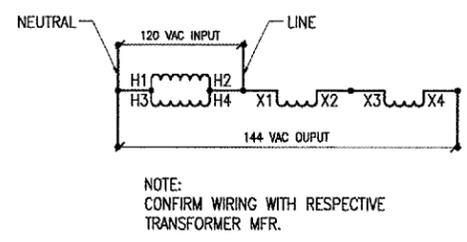
**ELECTRICAL NOTES**

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA70 (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.
2. CONTRACTOR SHALL COORDINATE ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE AIRPORT MANAGER, AND THE RESIDENT ENGINEER.
3. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
4. PROVIDE NEMA 4 HUBS FOR ALL CONDUIT ENTRIES INTO NEMA 4 RATED ENCLOSURES.
5. ALL CONDUCTORS/WIRING SHALL BE COPPER.
6. WIND CONES SHALL BE PAID FOR UNDER AR107408.
7. BOOST TRANSFORMER FOR WIND CONE WITH A LOAD OF APPROXIMATELY 3.5 AMPS SHALL BE 250 VA, 120 VAC, TO 132 VAC UNIT, SQUARE D CAT. NO. 250S43B OR APPROVED EQUAL. BOOST TRANSFORMER FOR A WIND CONE WITH A LOAD OF APPROXIMATELY 7 AMPS SHALL BE 250 VA, 120 VAC, TO 144 VAC UNIT, SQUARE D CAT. NO. 250S43B OR APPROVED EQUAL. INTERFACE & CONNECT BOOST TRANSFORMER TO EXISTING CONTROL PANEL.
8. LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6., SUITABLE FOR GROUNDING AND SUNLIGHT RESISTANT. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO TRANSFORMERS) 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 U.L. LISTED.

120 VAC TO 132 VAC BOOST TRANSFORMER  
CONNECTION DIAGRAM FOR SQUARE D CAT. NO. 250SV43B



120 VAC TO 144 VAC BOOST TRANSFORMER  
CONNECTION DIAGRAM FOR SQUARE D  
CAT. NO. 250SV43B TRANSFORMER



ELECTRICAL ONE LINE DIAGRAM  
FOR RUNWAY 15 WIND CONE

WORK SHOWN ON THIS SHEET IS FOR BASE BID

DATE	REVISION

MT. VERNON AIRPORT  

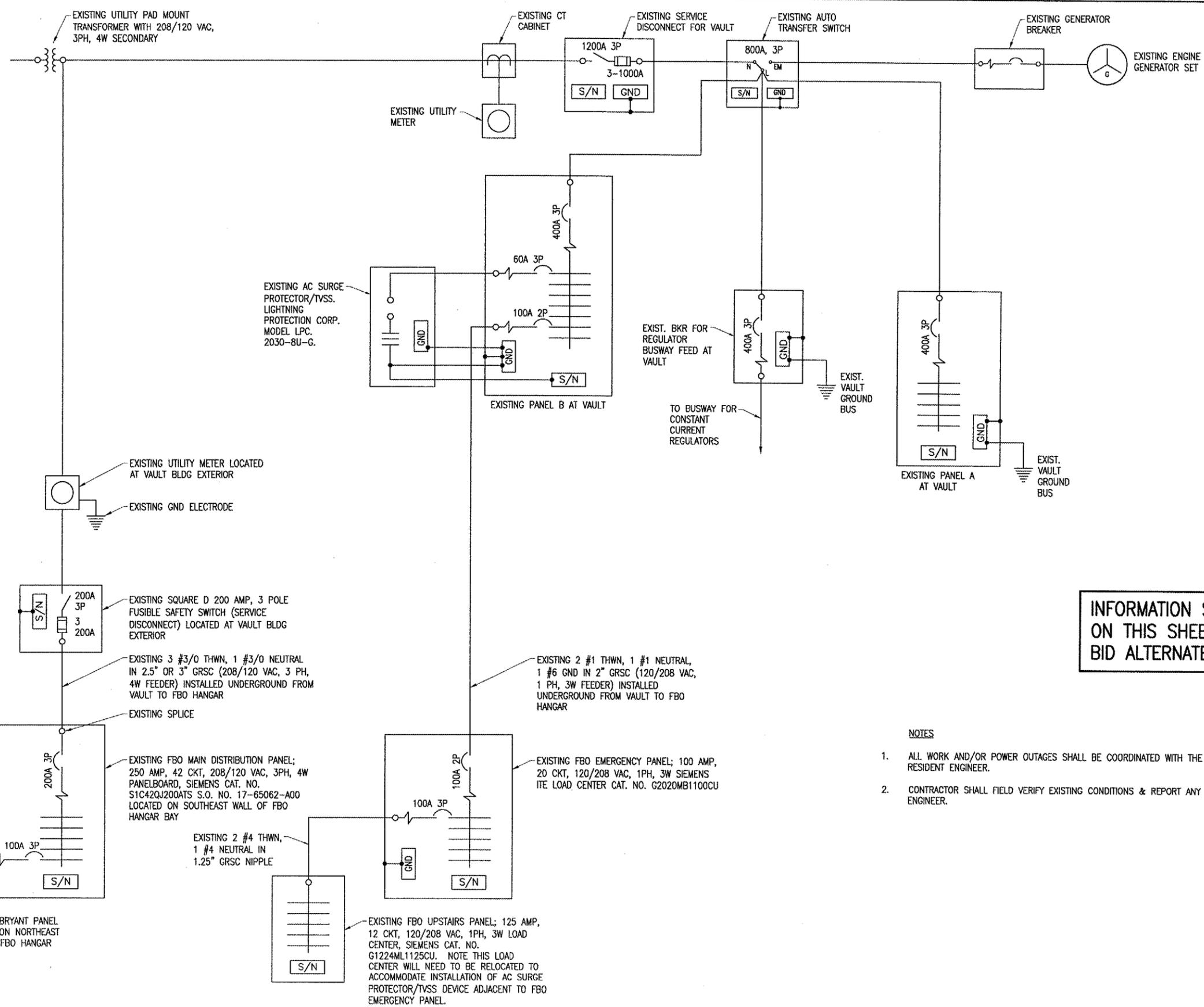
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MNN-3539 A.I.P. PROJ.: 3-17-0074-B12

REV. PROJECT NO. 819-06RWYD	FILE NO. F-603.DWG	DATE 12/02/05
SHEET NONE	DATE 12/16/05	DATE 12/05/05
LAYOUT	KNL	12/02/05
DRAWN	MV	12/05/05
REVIEWED	CAH	12/14/05

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 Chicago, Illinois

RUNWAY 15-33  
 P.F.C. OVERLAY  
 ELECTRICAL ONE LINE  
 DIAGRAM FOR WIND CONE

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INFORMATION SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 1

- NOTES**
1. ALL WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT MANAGER AND THE RESIDENT ENGINEER.
  2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS & REPORT ANY VARIATIONS TO RESIDENT ENGINEER.

EXISTING ELECTRICAL ONE LINE DIAGRAM FOR FBO HANGAR

MAR 30, 2006 2:23 PM DPE I:\AIRPORTS\MTVERNON\819-06RWYD\AIRPORT\SHEETS\E-601.DWG - Work-FLR

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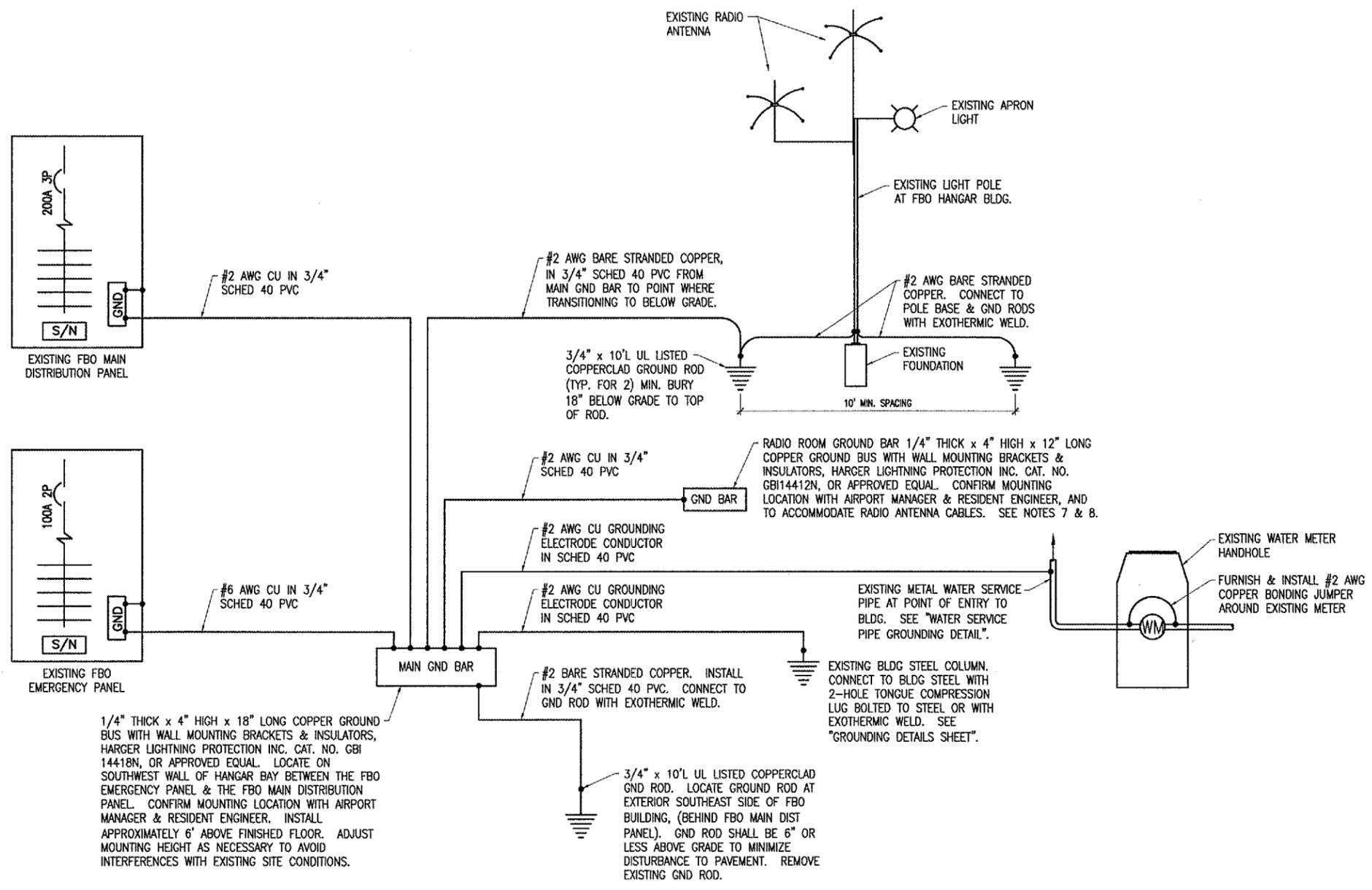
MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 ILL. PROJ.: MVN-3539 A.I.P. PROJ.: 3-17-0074-B12

REV. PROJECT NO.	819-06RWYD
DATE	12/16/05
BY	CAH
DATE	12/14/05
REVIEWED	CAH
DATE	11/30/05
BY	MV
DATE	11/30/05
REVIEWED	CAH
DATE	12/16/05

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RUNWAY 15-33  
 P.F.C. OVERLAY  
 EXISTING ELECTRICAL  
 ONE LINE DIAGRAM  
 FOR FBO HANGAR





**FBO HANGAR GROUND RISER**

**NOTES**

- CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS, EXISTING EQUIPMENT LOCATIONS, AND CONDUIT & GROUND WIRE ROUTING.
- ALL CONNECTIONS TO GROUND BUS BARS SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR. ALL GROUND CONDUCTORS, TERMINATED ON THE MAIN GROUND BAR, SHALL BE CLEARLY LABELED WITH PERMANENTLY STAMPED/ENGRAVED FIBER IDENTIFICATION TAGS TO INDICATE THEIR FUNCTION AND FAR END TERMINATING POINT AND SHALL BE EQUIPPED WITH BRASS TAGS WITH THE WORDS "DO NOT DISCONNECT" EMBOSSED.
- GROUNDING ELECTRODE CONDUCTORS, BONDING JUMPERS, & INDIVIDUAL GROUND WIRES SHALL NOT BE INSTALLED IN METAL CONDUIT.
- ALL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL" OR EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTION TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.
- ALL CONNECTIONS TO GND RODS AND/OR BELOW GRADE SHALL BE EXOTHERMIC WELD, CADWELD, THERMOWELD, OR ULTRAWELD.
- INSULATED GROUND WIRES SHALL HAVE GREEN COLORED INSULATION, FOR ALL CONDUCTOR AWG.
- FURNISH & INSTALL COAXIAL IMPULSE SUPPRESSOR/ARRESTOR FOR THE UNICOM RADIO (123.00 MHZ) ANTENNA CABLE. LOCATE AT THE RADIO. COAXIAL IMPULSE SUPPRESSOR SHALL BE INDUSTRIAL COMMUNICATION ENGINEERS, LTD. MODEL 304/N OR APPROVED EQUAL. MOUNT/BOND TO RADIO ROOM GROUND BAR. INSTALL PER MFR. DIRECTIONS. GROUND SHIELD OF COAXIAL CABLE TO GROUND TERMINALS ON SUPPRESSOR.
- FURNISH & INSTALL COAXIAL IMPULSE SUPPRESSOR/ARRESTOR FOR THE KANSAS CITY CENTER RADIO MONITOR (127.7 MHZ) ANTENNA CABLE. LOCATE AT THE RADIO. COAXIAL IMPULSE SUPPRESSOR SHALL BE INDUSTRIAL COMMUNICATION ENGINEERS, LTD. MODEL 304/N OR APPROVED EQUAL. MOUNT/BOND TO RADIO ROOM GROUND BAR. INSTALL PER MFR. DIRECTIONS. GROUND SHIELD OF COAXIAL CABLE TO GROUND TERMINALS ON SUPPRESSOR.
- REMOVE ABANDONED ANTENNAS & ASSOCIATED CABLE MOUNTED ON THE LIGHT POLE. CONFIRM ABANDONED ANTENNAS WITH AIRPORT MANAGER & FBO PERSONNEL.
- UPON COMPLETION OF INSTALLATION OF NEW GROUND RODS AT THE APRON LIGHT POLE, REMOVE THE EXISTING GND ROD.
- WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AS109200.

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 1

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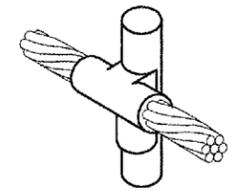
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 MT. VERNON, ILLINOIS  
 A.I.P. PROJ.: 3-17-0074-B12  
 I.L. PROJ.: MW-3539

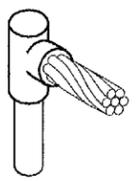
HEB Project No.	819-06RWYD	LAYOUT	KNL	12/02/05
Filename	E-611.DWG	DRAWN	MY	12/02/05
Scale	NONE	REVIEWED	CAH	12/14/05
Date	12/16/05			

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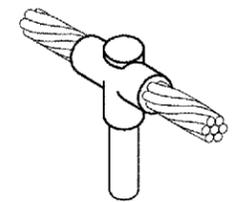
RUNWAY 15-33  
 P.F.C. OVERLAY  
 FBO HANGAR  
 GROUND RISER



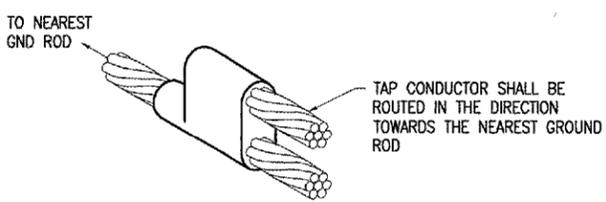
**CABLE TO GROUND ROD**



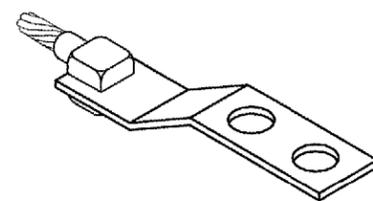
**CABLE TO GROUND ROD**



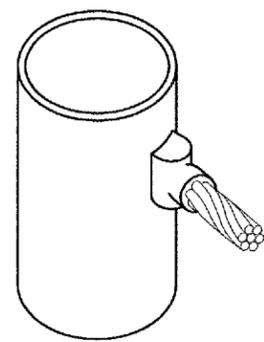
**CABLE TO GROUND ROD**



**CABLE TO CABLE HORIZONTAL PARALLEL TAP**



**CABLE TO LUG**

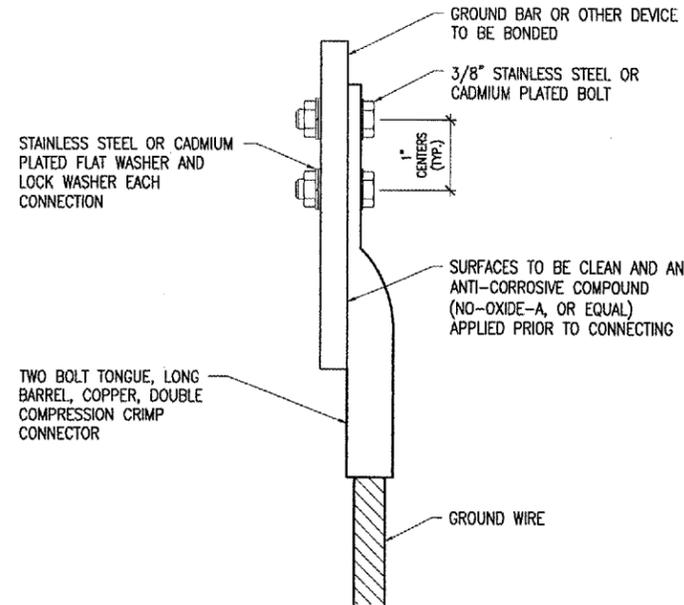


**CABLE TO PIPE OR STEEL LIGHT POLE**

**DETAIL NOTES**

1. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY ERICO PRODUCTS, SOLON, OHIO, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, GRAYSLAKE, IL, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES, TULSA, OKLAHOMA. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
2. FOR APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
3. INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 40 PVC CONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC.

**EXOTHERMIC WELD DETAILS**



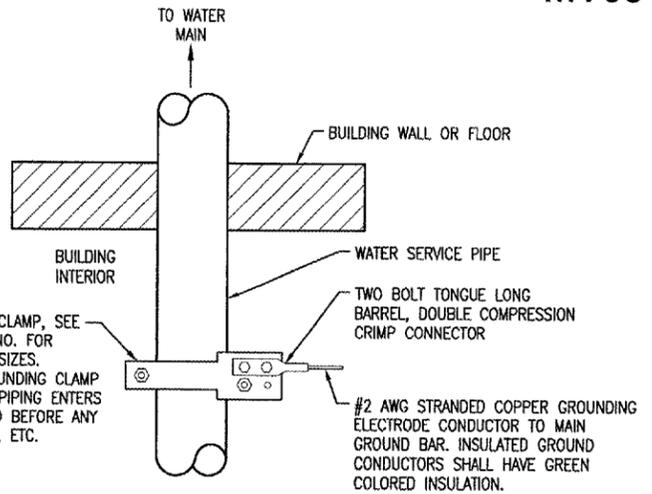
**2 HOLE LONG BARREL COMPRESSION LUG TABLE**

WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162
#2/0 AWG STRANDED	YA26-2TC38	256-30695-1116
#3/0 AWG STRANDED	YA27-2TC38	54816BE

**NOTES**

1. ALL CONNECTIONS TO GROUND BUS BAR SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
2. GROUND WIRE CONNECTIONS TO EQUIPMENT SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE OR WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE.
3. GROUNDING ELECTRODE CONDUCTORS, BONDING JUMPERS, & INDIVIDUAL GROUND WIRES SHALL NOT BE INSTALLED IN METAL CONDUIT.
4. ALL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL" OR APPROVED EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.

**GROUNDING LUG CONNECTION DETAIL**



**PIPE GROUNDING CLAMP TABLE**

BURNDY CAT. NO.	PIPE SIZE
GAR3902TC	1/2" - 1"
GAR3903TC	1 1/4" - 2"
GAR3904TC	2 1/2" - 3 1/2"
GAR3905TC	4" - 5"
GAR3906TC	6"
GAR3907TC	8"
GAR3908TC	10"
GAR3909TC	12"

**NOTES**

1. PROVIDE PIPE GROUNDING CLAMPS AT BOTH SIDES OF WATER METER WITH #2 AWG COPPER BONDING JUMPER ACROSS THE METER.
2. FOR DAMP OR WET LOCATIONS USE PIPE CLAMPS WITH ALL BRONZE HARDWARE.

**WATER SERVICE PIPE GROUNDING DETAIL**

**WORK & DETAILS SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 1 & BID ALTERNATE NO. 2**

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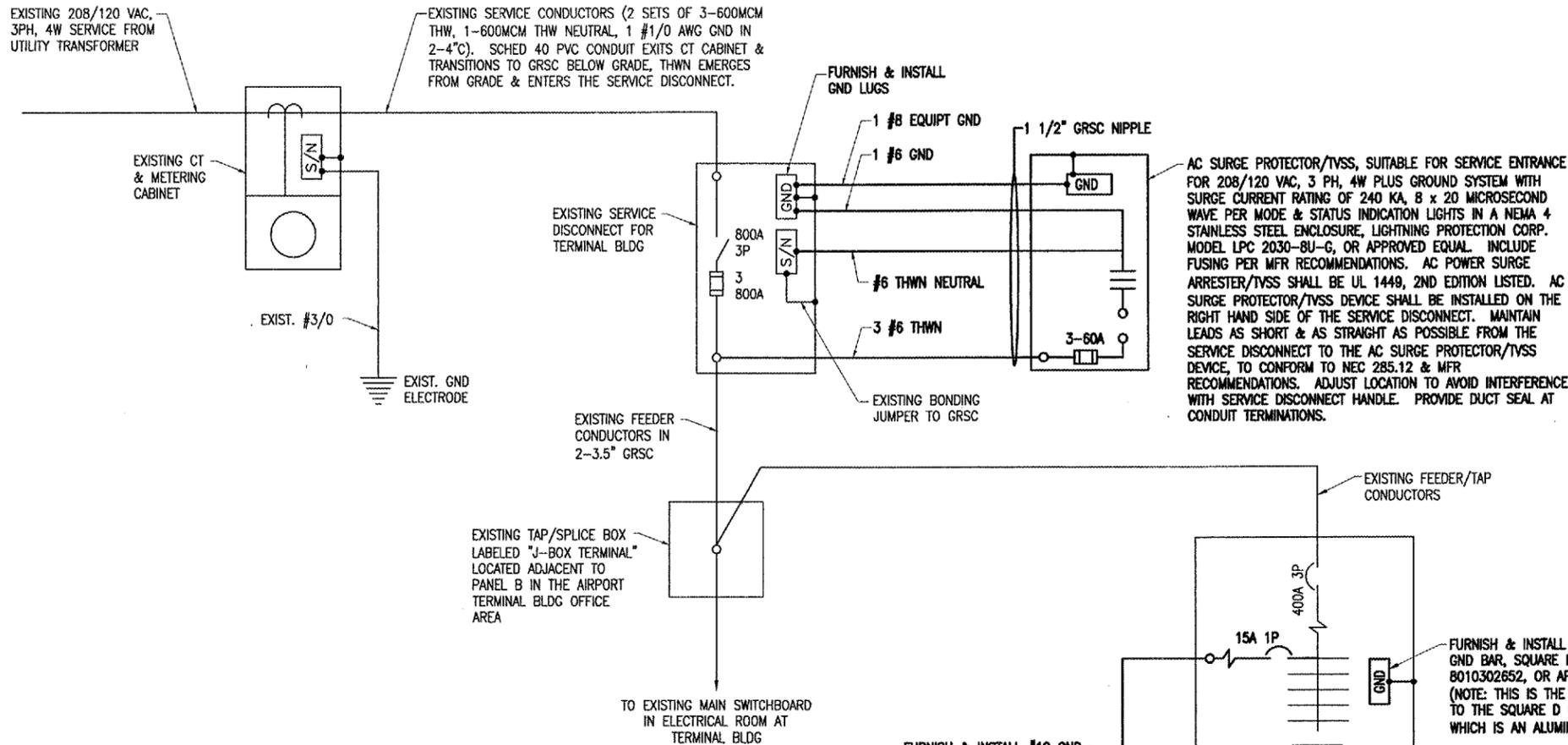
DATE	REVISION	BY

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MW-3539 A.I.P. PROJ.: 3-17-0074-B12

Proj. No. 819-06RWYD	Scale NONE	Date 12/16/05	LAYOUT KKL 11/30/05	REVIEWED CAH 12/14/05
Drawn E-501.DWG	Scale NONE	Date 12/16/05	DRAWN MW 11/30/05	

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 Springfield, Illinois 62703-2886  
 Chicago Nationwide

RUNWAY 15-33  
 P.F.C. OVERLAY  
 GROUNDING DETAILS



AC SURGE PROTECTOR/TVSS, SUITABLE FOR SERVICE ENTRANCE FOR 208/120 VAC, 3 PH, 4W PLUS GROUND SYSTEM WITH SURGE CURRENT RATING OF 240 KA, 8 x 20 MICROSECOND WAVE PER MODE & STATUS INDICATION LIGHTS IN A NEMA 4 STAINLESS STEEL ENCLOSURE, LIGHTNING PROTECTION CORP. MODEL LPC 2030-BU-G, OR APPROVED EQUAL. INCLUDE FUSING PER MFR RECOMMENDATIONS. AC POWER SURGE ARRESTER/TVSS SHALL BE UL 1449, 2ND EDITION LISTED. AC SURGE PROTECTOR/TVSS DEVICE SHALL BE INSTALLED ON THE RIGHT HAND SIDE OF THE SERVICE DISCONNECT. MAINTAIN LEADS AS SHORT & AS STRAIGHT AS POSSIBLE FROM THE SERVICE DISCONNECT TO THE AC SURGE PROTECTOR/TVSS DEVICE, TO CONFORM TO NEC 285.12 & MFR RECOMMENDATIONS. ADJUST LOCATION TO AVOID INTERFERENCE WITH SERVICE DISCONNECT HANDLE. PROVIDE DUCT SEAL AT CONDUIT TERMINATIONS.

FURNISH & INSTALL COPPER EQUIPMENT GND BAR, SQUARE D CAT. NO. 8010302652, OR APPROVED EQUAL. (NOTE: THIS IS THE COPPER EQUIVALENT TO THE SQUARE D CAT. NO. PK156TA WHICH IS AN ALUMINUM GND BAR.)

FURNISH & INSTALL #12 GND WITH EXISTING BRANCH CIRCUIT CONDUCTORS. REPULL EXISTING WIRING WHERE APPLICABLE.

LOCATED IN AIRPORT MANAGER'S OFFICE AREA. SEE NOTES 4 & 5

LEGEND PLATE SCHEDULE	
DEVICE	LABEL
TERMINAL BUILDING SERVICE DISCONNECT	TERMINAL BLDG SERVICE DISCONNECT 208/120VAC, 3PH, 4W
KITCHEN SERVICE DISCONNECT	KITCHEN SERVICE DISCONNECT 208/120VAC, 3PH, 4W
SUITE 131 SERVICE DISCONNECT	SUITE 131 SERVICE DISCONNECT
AIRLINE OFFICE SERVICE DISCONNECT	AIRLINE OFFICE SERVICE DISCONNECT
EMERGENCY PANEL IN ELECTRICAL ROOM OF TERMINAL BUILDING	EMERGENCY PANEL 120/208VAC, 1PH, 3W FED FROM PANEL B LOCATED IN THE VAULT
EACH SERVICE DISCONNECT (4 LEGEND PLATES)	NOTE THERE ARE 3 ADDITIONAL SERVICE DISCONNECTS LOCATED ADJACENT TO THIS DISCONNECT. THERE IS ALSO AN ADDITIONAL FEEDER CIRCUIT TO THIS BUILDING LOCATED AT THE EMERGENCY PANEL IN THE ELECTRICAL ROOM
EMERGENCY PANEL IN ELECTRICAL ROOM OF TERMINAL BUILDING	NOTE THERE ARE 4 ADDITIONAL SERVICE DISCONNECTS FOR THE TERMINAL BUILDING LOCATED ON THE NORTH EXTERIOR WALL

LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLOCK LETTERS ON A WHITE BACKGROUND, SECURE WITH WEATHERPROOF ADHESIVE AND/OR MACHINE SCREWS.

ELECTRICAL ONE LINE DIAGRAM FOR TERMINAL BUILDING (OFFICE AREA)

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 2

NOTES

- ALL WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT MANAGER AND THE RESIDENT ENGINEER.
- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS & REPORT ANY VARIATIONS TO RESIDENT ENGINEER.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (NEC MOST CURRENT ISSUE IN FORCE), THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
- FURNISH & INSTALL SURGE ARRESTER AT THE INPUT POWER TERMINALS OF THE L-821 PANEL. SURGE ARRESTER SHALL BE SUITABLE FOR 120VAC, 1PH, 2 WIRE PLUS GROUND SYSTEM WITH SURGE CURRENT RATING OF 60KA (MIN.), 8x20 MICROSECOND WAVE WITH STATUS INDICATION LIGHTS, LIGHTNING PROTECTION CORP. MODEL LPC 10262-7, OR APPROVED EQUAL. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS.
- FURNISH & INSTALL A 28VDC SURGE ARRESTER ON THE LOAD SIDE CONNECTIONS OF EACH 24VDC POWER SUPPLY (3 TOTAL) IN THE L-821 PANEL. 28VDC SURGE ARRESTER SHALL HAVE 20KA, 8x20 MICROSECOND WAVE PEAK SURGE RATING, & ENERGY DISSIPATION RATING OF 300 JOULES (MIN.). SURGE ARRESTER SHALL BE LIGHTNING PROTECTION CORP. MODEL LPC 11895-028 OR APPROVED EQUAL. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS & RECOMMENDATIONS. CONTRACTOR SHALL FIELD VERIFY QUANTITY & VOLTAGE OF DC POWER SUPPLIES IN L-821 PANEL, AND CONFIRM SELECTED SURGE ARRESTER IS SUITABLE FOR THE APPLICATION.
- ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
- GRSC DENOTES GALVANIZED RIGID STEEL CONDUIT.
- WORK SHOWN ON THIS SHEET SHALL BE PAID UNDER ITEM AT109200.
- FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH SERVICE DISCONNECT & PANELBOARD B, LOCATED AT THE TERMINAL BUILDING, TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION". LABELS SHALL BE HAZARD COMMUNICATION SYSTEMS, LLC (119 OLD MILFORD RD., P.O. BOX 1174, MILFORD, PA. 18337, PHONE: 1-877-748-0244) PART NO. H6010-9VWHBJ OR APPROVED EQUAL.

MAR 30, 2006 2:27 PM DPE  
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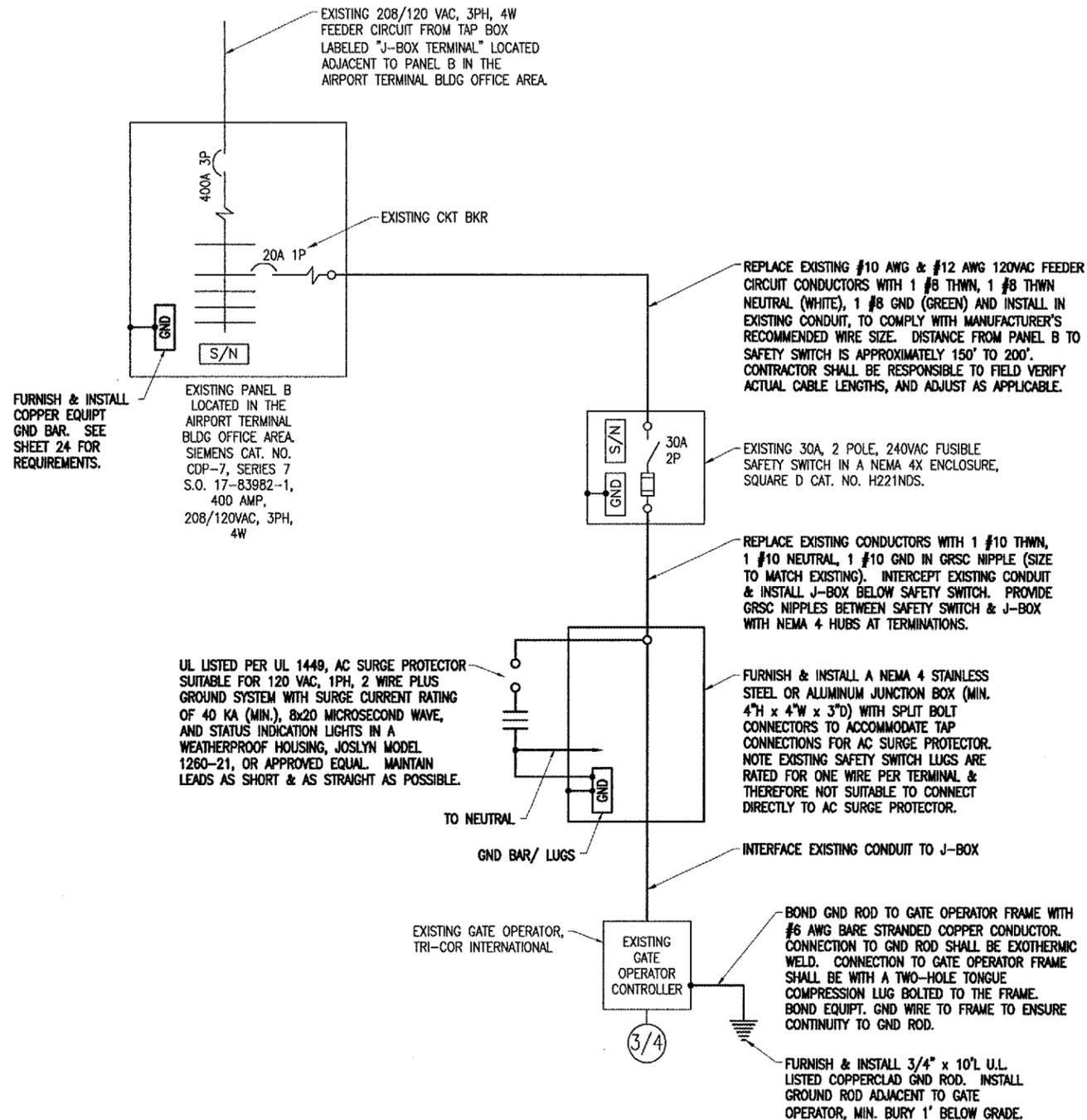
DATE	REVISION	BY

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 ILL. PROJ.: MW-3539 A.I.P. PROJ.: 3-17-0074-B12

FILE NO.	SCALE	DATE	LAYOUT	DRAWN	REVIEWED
819-06RWYD	E-612.DWG	12/16/05	KNL	MY	CAH

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 Offices Nationwide

RUNWAY 15-33  
 P.F.C. OVERLAY  
 ELECTRICAL  
 ONE LINE DIAGRAM  
 FOR TERMINAL BUILDING



ELECTRICAL NOTES

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (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.
2. CONTRACTOR SHALL COORDINATE NEW WORK AND ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE RESPECTIVE USER PERSONNEL & THE AIRPORT MANAGER.
3. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
4. PROVIDE A WEATHERPROOF ENGRAVED PHENOLIC OR PLASTIC LEGEND PLATE FOR THE SAFETY SWITCH AT THE RESPECTIVE GATE OPERATOR LABELED "GATE NO. 1, 120 VAC, FED FROM TERM BLDG PANEL B".
5. FURNISH AND INSTALL A #12 AWG EQUIPMENT GROUND WIRE FROM THE GATE OPERATOR TO THE CARD READER UNIT IN THE EXISTING CONTROL WIRING CONDUIT.
6. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
7. WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AT109200.

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 2

GATE NO. 1 ELECTRICAL ONE LINE

BY	
REVISION	
DATE	

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MVN-3539 A.I.P. PROJ.: 3-17-0074-B12

HEL Project No. 819-06RWYD	12/02/05
File Name: E-604.DWG	KNL
Scale: NONE	NY
Date: 12/16/05	CAH
LAYOUT	12/14/05
DRAWN	
REVIEWED	

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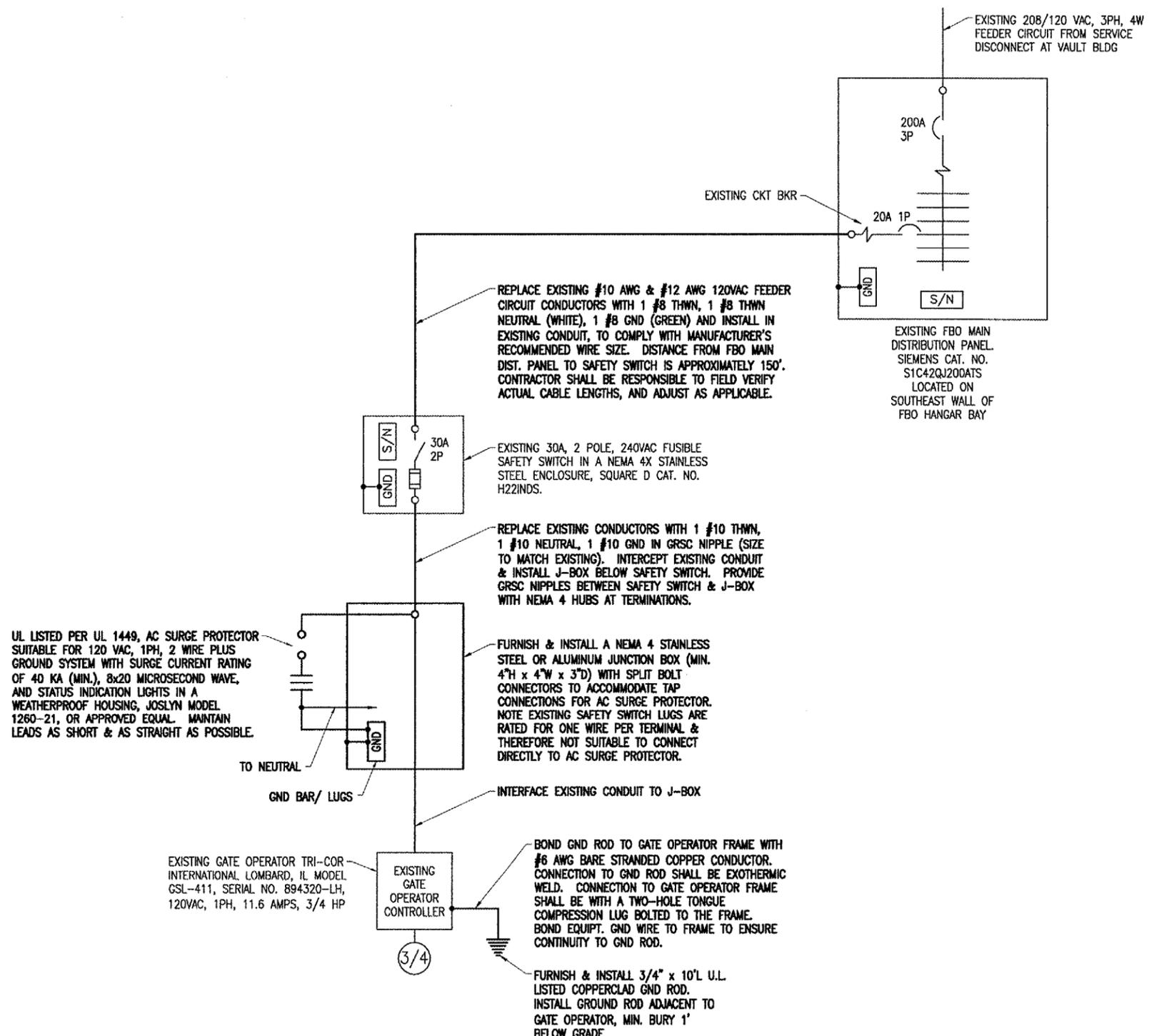
RUNWAY 15-33  
 P.F.C. OVERLAY  
 GATE NO. 1  
 ELECTRICAL ONE LINE

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ELECTRICAL NOTES

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (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.
2. CONTRACTOR SHALL COORDINATE NEW WORK AND ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE RESPECTIVE USER PERSONNEL & THE AIRPORT MANAGER.
3. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
4. PROVIDE A WEATHERPROOF ENGRAVED PHENOLIC OR PLASTIC LEGEND PLATE FOR THE SAFETY SWITCH AT THE RESPECTIVE GATE OPERATOR LABELED "GATE NO. 3, 120 VAC, FED FROM FBO MDP".
5. FURNISH AND INSTALL A #12 AWG EQUIPMENT GROUND WIRE FROM THE GATE OPERATOR TO THE CARD READER UNIT IN THE EXISTING CONTROL WIRING CONDUIT.
6. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
7. WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AT109200.



GATE NO. 3 ELECTRICAL ONE LINE

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 2

DATE	REVISION	BY

MT. VERNON AIRPORT  

 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MVN-3539 A.I.P. PROJ.: 3-17-0074-B12

HD Project No.: 819-06RWMD Filename: E-606.DWG Scale: NONE Date: 12/16/05	LAYOUT: KNL 12/02/05 DRAWN: MW 12/02/05 REVIEWED: CAH 12/14/05
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RUNWAY 15-33  
 P.F.C. OVERLAY  
 GATE NO. 3  
 ELECTRICAL ONE LINE

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BY	
REVISION	
DATE	

MT. VERNON AIRPORT  
  
 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MW-3539 A.I.P. PROJ.: 3-17-0074-B12

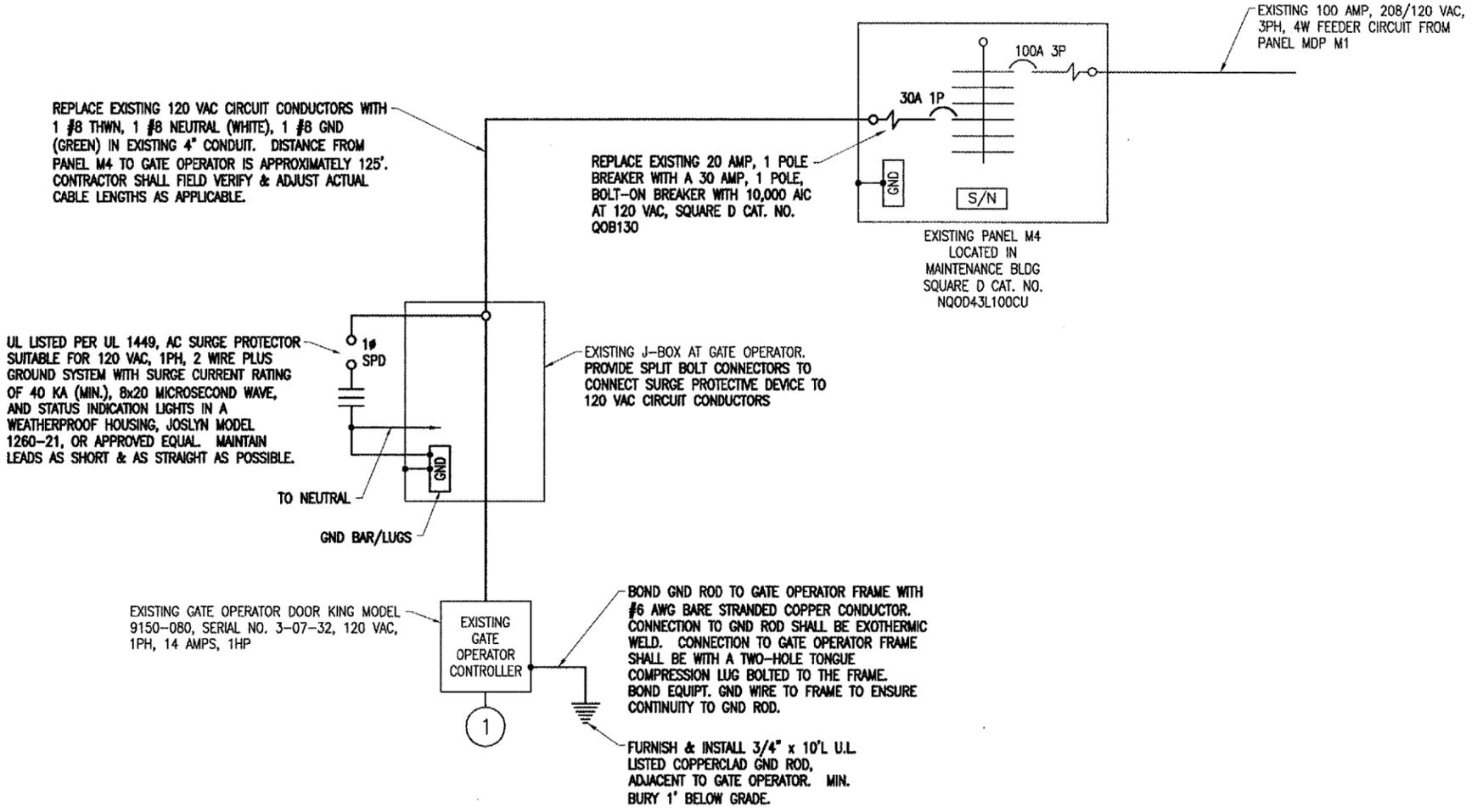
Project No.	819-06RMYD
Revision	E-609.DWG
Scale	NONE
Date	12/16/05
LAYOUT	KNL 12/02/05
DRAWN	MV 12/02/05
REVIEWED	CAH 12/14/05

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RUNWAY 15-33  
 P.F.C. OVERLAY  
 GATE NO. 7  
 ELECTRICAL ONE LINE

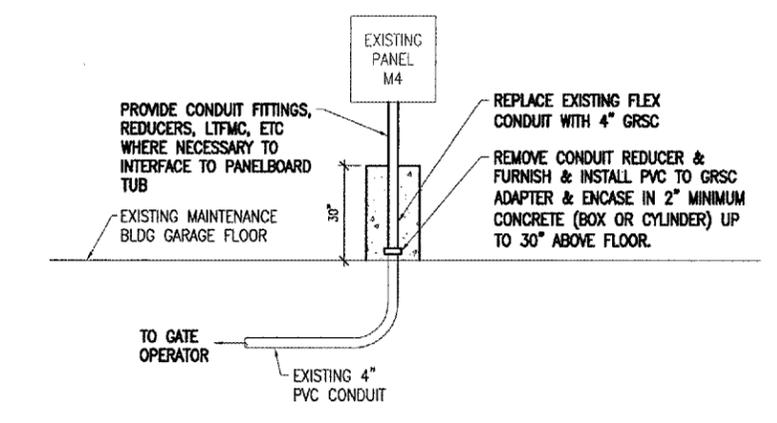
**ELECTRICAL NOTES**

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (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.
2. CONTRACTOR SHALL COORDINATE NEW WORK AND ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE RESPECTIVE USER PERSONNEL & THE AIRPORT MANAGER.
3. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
4. PROVIDE A WEATHERPROOF ENGRAVED PHENOLIC OR PLASTIC LEGEND PLATE FOR THE SAFETY SWITCH AT THE RESPECTIVE GATE OPERATOR LABELED "GATE NO. 7, 120 VAC, FED FROM PANEL M4".
5. FURNISH AND INSTALL A LOW VOLTAGE LINE PROTECTOR FOR THE EXISTING CARD READER UNIT. LOW VOLTAGE LINE PROTECTOR SHALL BE SUITABLE FOR USE ON THE RESPECTIVE CONTROL VOLTAGE SYSTEM USED IN THE CARD READER UNIT, AC OR DC PROTECTION MODES (AS APPLICABLE) ON ALL LINES WITH A SURGE CURRENT RATING OF 2000 AMPS (MINIMUM). LOW VOLTAGE LINE PROTECTOR FOR 12 VDC, 24 VDC, OR 24 VAC APPLICATIONS SHALL BE DITEK CORPORATION, MODEL DTK-4LVLP-CR, OR APPROVED EQUAL. LOCATE INSIDE GATE OPERATOR HOUSING.
6. FURNISH AND INSTALL A #12 AWG EQUIPMENT GROUND WIRE FROM THE GATE OPERATOR TO THE CARD READER UNIT IN THE EXISTING CONTROL WIRING CONDUIT.
7. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
8. WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AT109200.



**GATE NO. 7 ELECTRICAL ONE LINE**

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 2



**PANEL M4 & GATE NO. 7 CONDUIT ELEVATION DETAIL**

NOTE: TRANSITION FROM PVC TO GRSC & 2\"/>

REPLACE EXISTING 120VAC BRANCH CIRCUIT CONDUCTORS WITH 1 #8 THWN, 1 #8 THWN NEUTRAL (WHITE), 1 #8 GND (GREEN) AND INSTALL IN EXISTING 3.5" CONDUIT. DISTANCE TO LOAD CENTER IS APPROXIMATELY 150'. CONTRACTOR SHALL FIELD VERIFY ACTUAL CABLE LENGTHS & ADJUST AS APPLICABLE.

EXISTING FEEDER CIRCUIT IN CONDUIT & WIREWAY. FURNISH & INSTALL #6 EQUIPT GND WIRE WITH EXISTING FEEDER CIRCUIT FROM ORIGIN OF FEEDER TO LOAD CENTER.

EXISTING CKT BKR

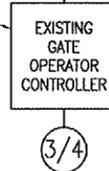
FURNISH & INSTALL EQUIPT GND BAR

EXISTING SQUARE D QO LOAD CENTER AT FIRE STATION

UL LISTED PER UL 1449, AC SURGE PROTECTOR SUITABLE FOR 120 VAC, 1PH, 2 WIRE PLUS GROUND SYSTEM WITH SURGE CURRENT RATING OF 40 KA (MIN.), 8x20 MICROSECOND WAVE, AND STATUS INDICATION LIGHTS IN A WEATHERPROOF HOUSING, JOSLYN MODEL 1260-21, OR APPROVED EQUAL. MAINTAIN LEADS AS SHORT & AS STRAIGHT AS POSSIBLE. INSTALL AT SAFETY SWITCH WHERE LUGS ARE RATED FOR 2 CONDUCTORS, OR PROVIDE SPLIT BOLT CONNECTORS IN EXISTING J-BOX & CONNECT AT J-BOX.

FURNISH & INSTALL 30 AMP, 2 POLE, 240 VAC, U.L. LISTED, HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE, SQUARE D CLASS 3110, CAT. NO. H221DS WITH SOLID NEUTRAL KIT & EQUIPT GND BAR, OR APPROVED EQUAL. PROVIDE 1 UL LISTED CLASS RK5 FUSE AS MANUFACTURED BY BUSSMANN, SIZED AS REQUIRED FOR THE RESPECTIVE GATE OPERATOR IN ACCORDANCE WITH THE GATE OPERATOR MANUFACTURER'S RECOMMENDATIONS AND PER THE REQUIREMENTS OF NEC. INCLUDE 1 SPARE FUSE OF THE SAME SIZE AND TYPE. LOCATE SAFETY SWITCH NEAR GATE OPERATOR AND PROVIDE STAINLESS STEEL STRUT SUPPORT WITH CORROSION RESISTANT HARDWARE. NOTE SAFETY SWITCH SHALL NOT BE USED AS A SPLICE BOX OR A PULL BOX.

EXISTING GATE OPERATOR FEDERAL APD MODEL 23-7661 SERIAL NO. 2959-9245, 115 VAC, 60 HZ, 1PH, 12 AMPS, 3/4 HP



BOND GND ROD TO GATE OPERATOR FRAME WITH #6 AWG BARE STRANDED COPPER CONDUCTOR. CONNECTION TO GND ROD SHALL BE EXOTHERMIC WELD. CONNECTION TO GATE OPERATOR FRAME SHALL BE WITH A TWO-HOLE TONGUE COMPRESSION LUG BOLTED TO THE FRAME. BOND EQUIPT. GND WIRE TO FRAME TO ENSURE CONTINUITY TO GND ROD.

FURNISH & INSTALL 3/4" x 10'L U.L. LISTED COPPERCLAD GND ROD. CORE PAVEMENT TO INSTALL GROUND ROD ADJACENT TO GATE OPERATOR. TOP OF GND ROD SHALL BE 6" OR LESS ABOVE GRADE TO MINIMIZE DISTURBANCE TO PAVEMENT.

FIRE STATION GATE ELECTRICAL ONE LINE

ELECTRICAL NOTES

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (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.
2. CONTRACTOR SHALL COORDINATE NEW WORK AND ANY POWER OUTAGES TO EXISTING EQUIPMENT WITH THE RESPECTIVE USER PERSONNEL & THE AIRPORT MANAGER.
3. ALL EQUIPMENT NOT LABELED AS EXISTING IS NEW.
4. PROVIDE A WEATHERPROOF ENGRAVED PHENOLIC OR PLASTIC LEGEND PLATE FOR THE SAFETY SWITCH AT THE RESPECTIVE GATE OPERATOR LABELED "FIRE STATION GATE, 120 VAC, FED FROM FIRE STN LOAD CENTER".
5. FURNISH AND INSTALL A #12 AWG EQUIPMENT GROUND WIRE FROM THE GATE OPERATOR TO THE CARD READER UNIT IN THE EXISTING CONTROL WIRING CONDUIT.
6. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
7. EXISTING LTFMC (LIQUID TIGHT FLEXIBLE METAL CONDUIT) AT THE GATE OPERATOR IS IN POOR CONDITION. REPLACE ALL EXISTING LTFMC WITH NEW. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6 SUITABLE FOR GROUNDING AND SUNLIGHT RESISTANT. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO GATE OPERATORS) 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.
8. WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AT109200.

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 2

DATE	REVISION	BY

MT. VERNON AIRPORT  

 MT. VERNON, ILLINOIS  
 I.L. PROJ.: MVN-3539 A.I.P. PROJ.: 3-17-0074-B12

Project No. 819-06RWD	File No. E-610.DWG	Scale NONE	Date 12/16/05
LAYOUT	KNL	12/02/05	12/02/05
DRAWN	MV	12/02/05	12/14/05
REVIEWED	CAH		

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RUNWAY 15-33  
 P.F.C. OVERLAY  
 FIRE STATION GATE  
 ELECTRICAL ONE LINE

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